

THE FUTURE OF AMIGA COMPUTING

AMIGAACTIVE

ISSUE 12

SEPTEMBER 2000

More than
Nuts
and Bolts?

PPC AmigaOS
MorphOS Tested

Artistic Licence
Keep Taking The Tablets

Making Movies
The LithTech Way

PLUS...

Zaac Gives Mario a Run For His Money
Tales From Heaven reviewed inside

Turn Your PC Into an Amiga Dev Box
or buy one ready-built

Original Games Headed Your Way
an Active Gamer special report

Infra Red with ARexx
we test the EZLink

Great Software For Your Palm
Spitfire 2: the bees' knees?

Programming with Panache
concluding our C tutorial

Publishing with Pagestream
new Masterclass starts this issue





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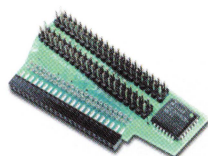
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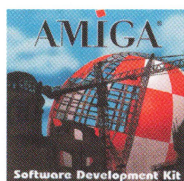
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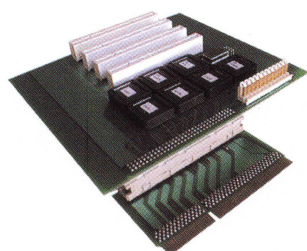
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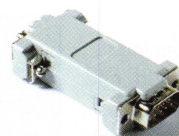
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Parallel Port Data Switch - to connect two printers to one computer. Includes cable to connect the box to the parallel port of the computer	£19.95
Power Graphic Tablet	£159.95

Regulars

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All the latest happenings from the Amiga world, and an in-depth look at one of Amiga's latest partnerships.

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Enough of the ports! Time to look at the latest original games heading our way.

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Your questions, comments, and new Amiga musings.

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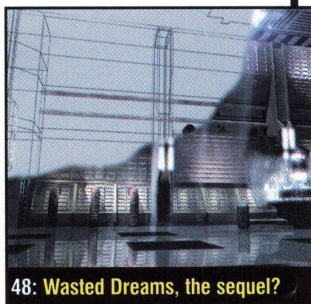
Perl scripting - how to get started, and why.

62 Next Month

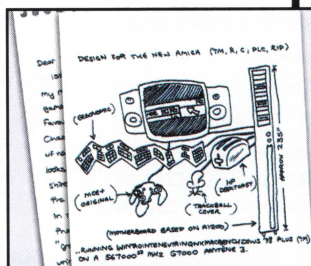
This month, we think we'll keep you guessing. Maybe.

64 Retroactive

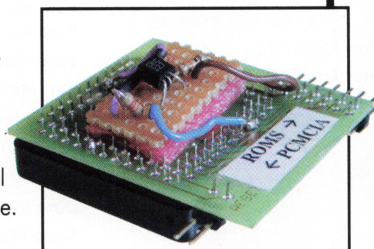
Looking back at the days of hand-configured TCP stacks.



48: Wasted Dreams, the sequel?



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22 SDK Tutorial

...followed by a quick tutorial to get you started with your first program.

32 Infra-Red EZLink

Take control of your infra-red devices courtesy of your Amiga...

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Link your Amiga to a Palm PDA - it's quick, it's easy... it's an Amiga in your pocket!

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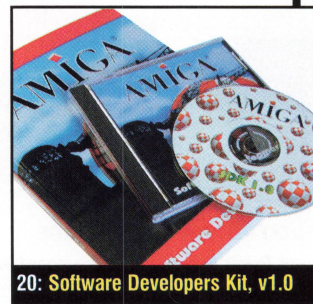
The latest in Amiga's public domain offerings reviewed for your pleasure.

38 Active Media

The latest in books, films and wacky web sites that caught our eye this month.

52 Tales from Heaven

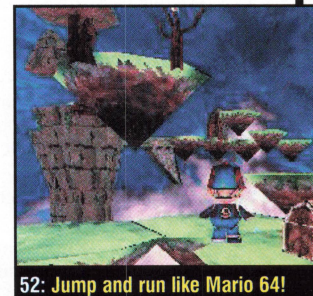
A Mario 64 clone for the Amiga? We take a look...



20: Software Developers Kit, v1.0



34: Connect your Amiga to a Palm.



52: Jump and run like Mario 64!

MONTHLY MEDITATIONS

Ask the Guru

Plenty of questions this month, so the Guru has unveiled blood and tears to answer them all.

1. Can I really clone someone else's hard work?

Yes, you can. But it's not recommended. It's like stealing someone's car. You can do it, but you'll be caught eventually. And if you are, you'll have to pay for it. So, it's not a good idea. Unless you're a genius and you can improve on what you've stolen. Then it's a different story. But for now, stick to your own work.

2. How do I fix a corrupted Amiga disk?

First, make a backup of the disk. Then, use a disk utility to check for errors. If there are errors, try to fix them. If that doesn't work, you might need to reformat the disk. But be careful, as this will erase all data on the disk. So, make sure you have a backup before you do this.

Spitfire 2

If you want a hand-held partner for your Amiga, Spitfire can put high quality connectivity into the Palm of your hand.

1. Spitfire 2 is a full-featured, Amiga-to-Palm desktop with a good-looking GUI interface that's a joy to use.

Spitfire 2 is a full-featured, Amiga-to-Palm desktop with a good-looking GUI interface that's a joy to use. It allows you to connect your Amiga to a Palm PDA via an EZLink device. This means you can use your Amiga as a PDA and vice versa. It's a great way to keep your data organized and accessible wherever you go.

2. Spitfire 2 is a full-featured, Amiga-to-Palm desktop with a good-looking GUI interface that's a joy to use.

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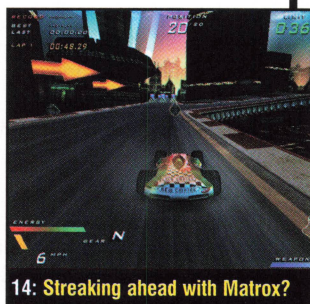
Features

12 MorphOS

A public beta recently materialized, enabling the AmigaOS to run on PPC.

14 In-depth: Matrox

Taking a close look at one of Amiga's latest partnerships. What does it mean for us?



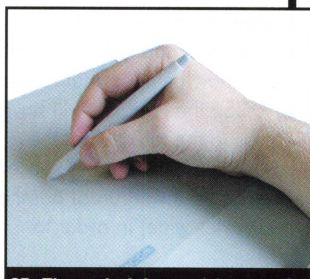
14: Streaking ahead with Matrox?

16 LithTech Movies

Maybe you won't need all that expensive film-making equipment after all.

25 GFX Tablets

Can't draw to save your life? Replace your mouse with a graphics tablet, then try!



25: The end of the road for mice?

28 Dev Boxes

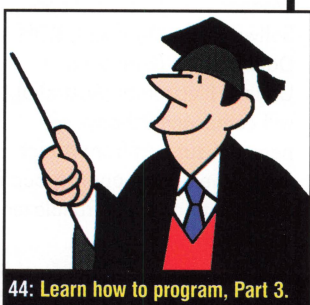
The latest developer systems from a range of companies compared and contrasted.

40 Pagestream Tutorial

How to get the most from Softlogik's page layout program for the Amiga.

44 Programming in C

Concluding our tutorial and looking at the finished code.



44: Learn how to program, Part 3.

AACD 12



Once again, we bring you a CD that is bursting at the seams with useful software, entertaining files and information. As always, make sure you double-click the Welcome icon the first time you use this CD (unless you use Autorun, of course). So, what's on AACD12?

Magazine

The Magazine drawer contains additional programs and information for articles in the magazine. If you're following the tutorials on programming or the SDK, take a look at the source code and examples we have provided for you.

Information

This month we have on-line information from Amiga. This includes the official Amiga web site and the first two issues of their on-line magazine, Amiga World. We also have postings to the Open Amiga mailing list, containing public information on the SDK and plans for the new Amiga.

Games

Heretic II has been updated, and there's also a port of "The Siege" add-on. This month's CD contains everything you need to use it with the Amiga version of Heretic II.

Graphics

We didn't have it in time for last month's review, but we now have a demo version of Art Effect 4.0. There is also a beta version of Photogenics 5 - you'll need v4 to use it.

Programming

We weren't able to bring you the demo version of MorphOS this month, but we do have all you need to start writing programs for it. There is also a complete Pascal compiler, a Y2K fix for SAS/C and updated MUI classes.

And there's more...

It's impossible to give more than a brief glimpse of some of the contents of the CD here, so explore away!

DEVELOPER BOXES

Develop D'Amiga!

All you ever wanted to know about Developer Boxes, but were too confused to ask.



Understanding the Developer Boxes is a complex task, but this guide aims to simplify it. The Developer Boxes are a series of software development kits for the Amiga, each containing a different set of tools and libraries. They are designed to help developers create applications for the Amiga platform. The boxes are organized into a hierarchy, with each box building upon the previous one. This guide will walk you through the contents of each box and provide tips on how to use them effectively.

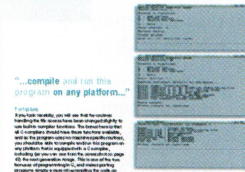
PROGRAMMING TUTORIAL

Programming in C Part 3

In this month's installment we wrap the program in its finished form, and discuss some improvements.



Now that we have the basic structure of the program, it's time to add some functionality. In this part of the tutorial, we will focus on implementing the core logic of the program. We will discuss how to handle user input, process data, and output results. By the end of this section, you should have a working program that demonstrates the concepts we've covered in the previous parts of the tutorial.



The Basics: Linked Lists
A linked list is a data structure that consists of a sequence of nodes, each containing a pointer to the next node in the sequence. This allows for efficient insertion and deletion of elements in the list. In this section, we will explore the basics of linked lists and how to implement them in C. We will cover topics such as node creation, list traversal, and list manipulation.

STOP PRESS

Just as we were about to hit the "print" button on this issue, Amiga Inc. announced another strategic alliance - this time with communications technology company Infomedia Network.

Amiga's relationship with Infomedia will provide a pathway for, "delivering the Amiga and its content to a new line of broadband interactive set-top box products."

Infomedia are currently developing a new line of set-top boxes and have several patents pending on new digital TV consumer devices. TVision, one of Infomedia's first products, will provide a low-cost gateway for Internet and broadband services including real-time video conferencing, interactive video games, home banking and movies-on-demand.

"Amiga is the perfect fit for the products and services Infomedia are looking to offer to their OEMs and consumers," said Bill McEwen, President & CEO of Amiga Inc.

www.amiga.com

www.infomedia-network.com

Predator PCI/AGP for Amiga

Following our announcement of the Mediator PCI busboard being developed for the Amiga by Elbox (and due to be available imminently from Power Computing), news has reached Amiga Active of a combined PCI, AGP and SDRAM expansion with direct PowerPC accelerator interface for A4000 desktop and towered A1200 systems.

In response to concern from various games developers as to the availability of fast graphics solutions for existing PPC-equipped Amigas, the "Predator" busboard will connect to existing PPC accelerator cards to provide very fast transfer rates for attached graphics cards.

The Predator will come in separate versions for A4000

desktop and A1200 tower systems, possibly with an A4000 tower version being produced at a later date if there is sufficient demand. Equipped with three PCI slots, one AGP (graphics card) slot and a single SDRAM socket for up to 256MB of RAM, the Predator will be fully PCI 2.1 compliant, including bus mastering and DMA facilities, meaning the on-board RAM can be accessed directly by the PPC or attached graphics card.

Strange Connections

By connecting directly to the expansion connector of BlizzardPPC and CyberstormPPC cards (now being manufactured by DCE), the Predator will have access to the full 4GB of the PowerPC CPU's address space. The bus itself will run at 66MHz (four bytes wide) in order to

provide "unprecedented transfer rates" (for classic Amigas, at least) with the PPC cards and - more importantly - between an attached AGP graphics card and the PPC processor.

Work on porting the Voodoo 5 3D drivers, due to be shipped with the card, has already started - meaning that you should be able to buy an off-the-shelf Voodoo 5 AGP graphics card and plug it straight in to your Amiga, allowing existing 3D games to take full advantage of much faster 3D hardware.

Details are sketchy at the moment, but the Predator is expected to be available in late September for £169.95. We'll bring you more details as soon as we get them, but for the moment, keep an eye on Eyetech's web site for updates.

www.eyetech.co.uk

Blittersoft Goes Game Crazy

Blittersoft have obtained exclusive rights to distribute three upcoming Amiga games - Payback, Homeland and FUBAR.

Regular readers of Amiga Active will be familiar with Payback, Apex Designs' upcoming Grand Theft Auto clone for the Amiga, previewed extensively in issues 10 and 11.

Homeland is a real-time strategy war game in the mould of Napalm and Command & Conquer, whilst FUBAR is another war simulation currently in development.

Blittersoft are now taking advanced orders for Payback, which is expected to be released in November.

For more information, call Blittersoft on +44 (0)1908 225454 or visit their web site.

www.blittersoft.com

Official Amiga Support for Developers

Amiga Inc. have confirmed that officially approved development systems for the new Amiga will come with a \$1,000 level of support, free of charge.

Amiga approved developer boxes, now being distributed

through Eyetech in the UK, Wonder Computers (Canada), Software Hut (America), KDH Datentechnik (Europe) and Unitech Electronics (Australia), will come with 90 days of personal support from Amiga Inc's developer support group in addition to a year's TrailBlazer

level of support (see page 28 of this issue for full details of what this includes), a 'fast-track' facility for serious developers which will only be available to non-official system purchasers for an annual fee of \$1,000 (around £700).

www.amiga.com

Wanted: Dead or Alive?

We have recently received a number of letters from readers expressing concern with Alive Mediasoft.

Following allegations that Alive are failing to deliver products and refusing to refund a number of its customers whose payments have already been made, we investigated via Companies House (www.companies-house.co.uk) and found that after the recent closure of "Alive Mediasoft,"

another company, "Alive Mediasoft UK" (registered to the same address) has been set up - with the result that customers of the original company have lost all claim to goods or payments owed them.

It is unfortunate that UK law, more often than not, allows companies to get away with this practice. We have passed our readers'

comments on to the Department of Trade and Industry, who have assured us that they will be launching an investigation.

Company Details

Name & Registered Office:
ALIVE MEDIASOFT UK LIMITED
5-8 WOODHOUSE STATION ENTERPRISE CENTRE, MANSFIELD WOODHOUSE, MANSFIELD, NOTTINGHAMSHIRE NG19 9NZ

Status: - Active

Company Type: - Private Limited Company
Nature of Business (SIC(92)): - None Registered

Accounting Reference Date: - 30/04
Last Accounts Made Up To: -
Next Accounts Due: - 20/02/2002
Last Return Made Up To: -
Next Return Due: - 18/05/2001

Company No.: - 03878721
Date of Incorporation: - 20/04/2000
Country of Origin: - United Kingdom

Let The Siege Begin!

The Siege, a multiplayer add-on for Heretic II, is now available from Hyperion Software - and we've put it on this month's coverdisc.

Offering additional character classes like Wizards, Fighters and Clerics as well as new objects ranging from catapults to full-blown castles, The Siege allows Heretic II players to battle with each other over the Internet and play against existing friends over a local network, using either PC or Amiga servers.

As well as The Siege add-on, you'll need the data files from Raven Software's web site to enjoy multiplayer Heretic II gaming - which, unfortunately, require converting by a PC for use on the Amiga. Not that it matters, however - the full set of converted files has been included on this month's coverdisc.

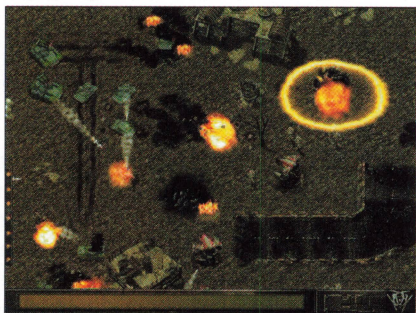
The Siege requires the full version of Heretic II, installs via a standard installer script and needs around 96MB of RAM to run properly, so fill up those memory banks and get fragging!

For more information on the freeware Heretic II add-on (which isn't officially supported by Hyperion) as well as additional maps, head off to Raven Software's web site.

www.raven-games.com/siege

Epic Gets Interactive

Epic Marketing Germany will be renamed to Epic Interactive by the end of September. The newly-named company will concentrate on porting PC titles to the Amiga and Macintosh platforms.



Dropping the classic Amiga from their plans, Epic's last products for the current line of Amigas will be Dafel: Bloodline, and Simon The Sorcerer 2 (pictured, right), both of which are in the final stages of production and due to be released by the end of the year.

Depending on sales of these titles, however, there is the additional possibility of a Classic Amiga version of Earth 2140 (pictured, top right), a title Epic are currently working on porting to the next Amiga platform.

Epic currently have six PC games signed up for the Amiga NG and Mac, not including the above titles, but remain tight-lipped on the details. "We do not want to give any other



information right now," Thomas Steiding told Amiga Active, teasingly. "We are signing up new titles almost every other week. We should have at least four titles ready by the launch of the Amiga One, all of them well-known games from the PC."

Needless to say, we'll continue to prod Epic for the latest news, and hope to bring you more details of Earth 2140 next issue.

www.epic-interactive.com

News in Brief

VillageTronic Petition

Concerned Amiga Active reader Paul Qureshi wants VillageTronic to support their Amiga hardware, either by providing repair facilities themselves or out-sourcing repairs to other companies in Europe.

If you have a faulty piece of VillageTronic kit, pop along to Paul's petition and put your name to the list of concerned VillageTronic customers, or contact him at paul.qureshi@btinternet.com - with your name and any comments you wish to make - by the end of September.

www.mc68k.btinternet.co.uk/vt

AmiBench is Back

AmiBench, the place to buy and sell second-hand Amiga gear on-line, has moved to a new service provider. The new site should be operational by the time you read this, but in case it isn't, try pointing your browser to its temporary home: www.amibench.nop.org.uk. The AmiBench team apologizes for any problems their service outage might have caused.

www.amibench.org

Aminet 38

The latest disc in the Aminet collection is now available from Schatztruhe at a price of DM25 (approx £7.75, or £10.79 with European P&P). Aminet 38 contains nearly a gigabyte of software, over half of which is new material that has appeared since disc 37. The latest disc also includes the full version of Cloanto's Personal Paint 7.1b.

www.schatztruhe.com

Czech Amiga Joke

"DON'T PANIC! IT WAS JUST A CRAZY JOKE," say Czech Amiga News, who recently celebrated their two-year anniversary by ditching their popular Amiga news service for a PC news page, which greeted startled visitors at the end of July. Following uproar from concerned members of the community in several public forums (including Amiga Active's own mailing list), Czech Amiga News are reassuring people that they aren't intending to jump ship just yet. Still, you may want to Czech (sorry) for yourselves...

www.realdreams.cz/amiga/

Clip-on Reset Fix

Eyeteck have designed a clip-on CC_RESET fix for A1200 systems, which solves the problem with resetting the PCMCIA port when rebooting. Costing just £14.95, the fix clips onto the Gayle chip (requiring no soldering) and is fully vented to prevent overheating.

www.eyeteck.co.uk

PC Mouse? EZMouse!

The EZMouse is hardware-only PS/2 mouse/trackball adapter for the Amiga. The unit supports three- and four-buttoned mice, as well as wheel mice, and costs £19.95. Trackball/mouse bundles are also available starting at £29.95. Call Eyeteck on +44 (0)1642 713185 for details.

www.eyeteck.co.uk

Repulse Negotiations

Stefan Sommerfeld of Alien Design has told Amiga Active that their Zorro-based soundcard, the Repulse, which will feature Dolby Digital output, is up and running. A prototype was displayed to the public at the AmiWest show, and Alien Design are currently in negotiations with Jens Schoenfeld (Individual Computers) to produce the card.

www.aliendesign.net

Anti Gravity expand BoXeR operation

AntGravity have outlined their commitment to concentrate all their efforts on the production and distribution of the BoXeR Amiga clone. They will be developing a second company specifically to promote the BoXeR, and are investing in staff and materials to ensure that the BoXeR project is completed and fulfils its promise.

Mick Tinker, who sold the rights for the BoXeR to AntiGravity earlier this year, continues to head up the development, but he will be getting more help in the future. AntiGravity have hired the much-liked ex-Amiga hardware engineer and notorious Amiga Show celeb Joe Torre to help the engineering team. Joe Torre visited the UK in June to work with Mick Tinker's team, and appeared to be happy with what he had seen.

The next step will be the restructuring of the company and the formation of a second company to manage the manufacture and distribution of the BoXeR system. They will be hiring more staff and setting up channels of support for developers, and the infrastructure for manufacture and reseller networks.

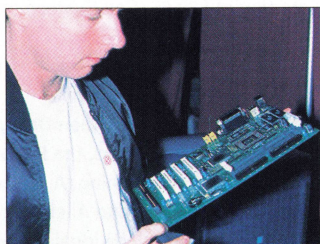
It is expected that the BoXeR will be available before the end of the year, offering a fully Amiga compatible solution, but a considerable amount more than just that. The BoXeR motherboard has a very flexible architecture, which makes it

highly appropriate for alternative CPU versions. A PPC card is planned to be available close to launch time, allowing the BoXeR to become a true 64-bit PPC computer. Other CPUs such as the StrongARM and Alpha are also possibilities for future BoXeR expansion units. The flexibility of BoXeR means that it can be more than just a great Classic Amiga; it could run the new Amiga OS too, not to mention Linux, QNX and so on.

AntiGravity are confident that the appeal of the BoXeR will be wider than the current Amiga market. They believe this will allow them to increase the installed user base of Amiga users by getting sales in areas of traditional strength for the Amiga, but where it has suffered due to outdated hardware.

AntiGravity also recently announced what has been widely but unofficially known for a while: that they were in the process of putting in their own bid for the Amiga from Gateway when Amino Developments bought the rights. AntiGravity would have used the BoXeR to be able to release a new Amiga in the classic line, which would be ideal for transitioning to next generation systems. Despite this, AntiGravity have restated their aims to work closely with the new Amiga Inc. on the BoXeR.

www.antigravity.com



Above: Joe Torre inspecting the BoXeR motherboard.

VMC offer the better mouse

VMC have the ultimate solution for the mouse power-user, the 5D+ Internet mouse. This stylish serial mouse boasts a high 520 DPI resolution for smooth performance, but most unusually it has a set of five independently programmable buttons.

The mouse has five mouse buttons, offering up to 23 programmable functions available through key combinations, and dual mouse wheels for two axes of scrolling.

The driver software includes a Workbench commodity that allows you to allocate functions to the various button combinations, select whether you're left or right-handed, and vary DPI from 200 to 520, while providing a system compatible signals to AmigaOS. It is also compatible with MUI's NewMouse standards.

No British distributor or price has been set for this item yet, but VMC are selling it themselves for 59DM, so expect it be around £30 by the time it becomes available in the UK.

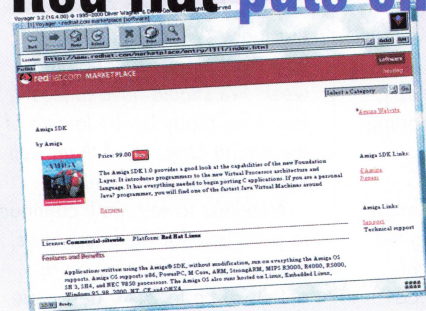
Pagestream hops to Grasshopper

Softlogik have announced that they are passing on the publication duties for Pagestream to Grasshopper LLC. Grasshopper will be providing sales and software support, while Softlogik's Dieron Kazmaier will continue development and online support. The arrangement is expected to allow Kazmaier more time to devote to developing Pagestream and ancillary products.

Pagestream 4 r8 will be available for Amiga, Macintosh and PC users to download from the secure sites by the time you read this. Further features and fixes are already in development. Grasshopper have distribution deals with Blittersoft in the UK and Software hut in the US as exclusive distributors in those territories.

www.softlogik.com

Red Hat puts on the SDK



Recently made available from the Amazon web site, now even Red Hat are following suit, selling Amiga's Software Development Kit via their web site.

www.redhat.com

BoXeR

SEAL-O-RAMA! 2000

show is coming

SEAL-O-RAMA 2000, the show put on by the Amiga user group SEAL (The South Essex Amiga Link), will be taking place at Northlands Park Community Centre in Felmores, Basildon, Essex, on the 10th September.

The show is looking set to be a huge success for SEAL, with major Amiga companies due to attend including Amiga Active Magazine, Analogic, Blittersoft (who will be carrying Power Computing and Hi-Soft stock), Crystal Interactive Software, Eyetech, Forematt Home Computing, and Gasteiner, amongst others. SEAL are hoping that an Amiga Inc. representative will be attending, but this is not yet confirmed.

SEAL-O-RAMA will be host to a range of events, including games competitions with WipEout 2097, Heretic II and Sensible Soccer, software demonstrations (including Pagestream4 and Photogenics 4.5) using two video projectors, and prize competitions offering a variety of prizes including two

Amiga A1200 magic packs. Show co-sponsors Analogic will be giving out an item of hardware valued at £10 to everyone who subscribes to SEAL's magazine, "Clubbed."

There should be a variety of new products on show at SEAL-O-RAMA 2000 for the first time. SEAL hope to provide the first public demonstrations in the UK of the new Amiga SDK, a QNX RTP (Neutrino) box, the Mediator PCI bus board, and several games including Payback and Fubar. Blittersoft are hoping to have Mick Tinker on hand to demonstrate a "complete active" BoXeR motherboard, and FusionPPC.

The show costs just £1 to get in, and opens at midday. The venue is reached by road by taking the A127 towards Southend off the M25, and then the A132 towards the Felmores in Basildon. Parking is said to be plentiful, and there are two local travel inns. For full information on travel, hotels, contact details and the latest updates on the show, visit the SEAL web site at

www.seal-amiga.co.uk

Apologies to Haage & Partner, for printing an incorrect scoreboard for Amigawriter last issue.

Amiga Active's scoring system went a little awry when, due to a printing error, one of the full "Ami-Yin-Yangs" was dropped from Amigawriter's final mark, leaving the word provessor with a piffing one-and-a-half out of four, when it should have received a slightly more respectable two-and-a-half. Here's the final scoreboard which *should* have appeared with the review:

Printing Error

Amigawriter 2.2

SYSTEM: 68030, OS 3.0, 8MB RAM.

SUMMARY: Potentially superb but missing far too many features. Roll on version 4.



Above: What should have appeared on page 24 of issue 11.

Editorial

A strange hiatus

Recently, the much-demanded OS3.5 was released. Whilst we await the next generation of Amiga, we are seeing a lot more power being introduced in the current generation with the appearance of PCI solutions.

The transitional era of PowerPC has moved from dual processor systems. Now, using a combination of a 68k code emulator and OS modules running natively, it is possible to run pure PPC Amigas. Within months, we will see totally compatible Amiga clones that do much more than any Commodore-designed Amiga.

No, I'm not thinking about the news we will be printing over the next few months. In fact, I'm thinking about the past, a past that was supposed to happen but never did. Imagine a March 30th 1997 where Gateway did not buy the Amiga because Escom hadn't gone out of business, and you'd probably be imagining a 1997 where many of the things I've just described would be the main subjects of an Amiga mag, not distant events for the year 2000.

The biggest disaster of the Amiga's recent nomadic lifestyle is that it has frozen the Amiga market. Every Amiga magazine has been yelling for someone to implement PCI interfaces for the Amiga for years, but the companies in a position to do so have been cautious. With owners who seemed just a little less than totally consistent, a lot of people were (and still are) worried about investing heavily in the market.

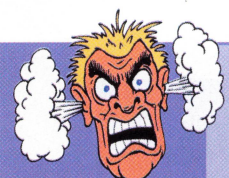
The departure of Collas from Gateway / Amiga was taken very badly by the market. It took a few months for Amiga to secure the deal with Amiga, and those were probably the most painful few months the market has seen since the closure of Commodore. Left in a limbo and in many cases not even knowing there were new bidders, a lot of developers and companies decided that it had been a blow too far. I spoke to a lot of people in the industry at that time who were convinced that it was, finally, all over.

Breathe again

OK, back to the year 2000. We've got our hands on OS3.5 and we're waiting on the next generation Amigas. Meanwhile, we're getting cool upgrade options such as PCI boards, new options for PPC on the horizon and even a way of running the OS on PPC with a combination of emulation and native modules. Everyone's embarking on interesting projects, or announcing solutions to problems we have been yelling about for years like magicians pulling rabbits out of hats. I mean, come on guys, these are all things we've been saying for years we wanted and needed, so why did you all save it up until now?

Of course, there hasn't been a cunning plan to keep all those important steps forward off the market. What there has been is a strange hiatus; five years when the Amiga market went through a period of extreme (and wise) caution - holding its collective breath in anticipation, awaiting the answer to the simple question: "Well, which way?" Perhaps with the latest incarnation of Amiga actually willing and able to start answering that question, people are starting to breathe again. Finally, I'll get to write about things like PCI without having to precede it with the words "Why, after all these years, do we STILL not have a working..."

Andrew Korn **A**



Rants and Raves

Can't Talk Now, We're Busy

Dave Stroud knows all that he wants to know, thank you very much.

Here at *Amiga Active*, we can go from feeling utterly depressed about the whole Amiga situation to completely elated in a heartbeat. One month, review products are as rare as gold dust. The next, we're updated on several new hardware projects and there's a flood of new software releases and announcements to contend with.

So it is with Amiga themselves. Several weeks can pass without hearing a word from Bill and Fleecy. Then, up they pop with an announcement of their Developer Box, which they say they'll show in St. Louis on April 1st.

All of a sudden, everyone in the Amiga community stops arguing for a couple of days, trying to make sense of the news.

How can this be? Bill and Fleecy haven't had enough time to brush their teeth, let alone move into new offices, hire new staff and produce a development system. Besides, the whole idea of an April Fools joke is to catch everyone out on April 1st, not before.

So, after looking at each other and exchanging puzzled looks, everyone in the community goes back to what they were doing, scarcely paying any attention to the announcement.

Now fast-forward several months to where we are today. Amiga have been working away behind the scenes, sticking bravely to their decision not to announce anything until it's within touching distance. It makes a welcome change to the empty promises of Commodore/Escom/Viscorp/Gateway...

One point of view that several people have expressed to me recently, however, is that Amiga should start saying something, announce products and perhaps release a beta of their new OS as soon as possible to keep the community's hopes alive, which makes me wonder what the community wants from Amiga that they haven't given us already.

Playing the waiting game

Amiga have been doing what any other technology company would do - they've been working extremely hard and issued the occasional press release when something of note has happened. They've joined forces with devicetop.com, Tao's Java engine has been officially certified by Sun, they've been interviewed by the New York Times (pictured)

"Amiga have been doing what any other technology company would do - they've been working extremely hard..."

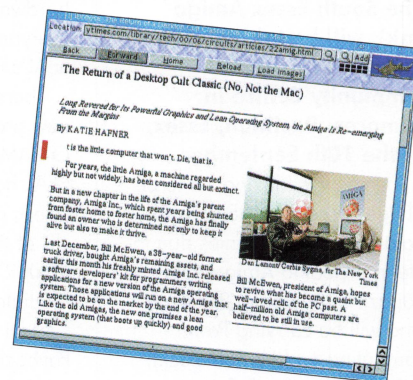
and they've partnered with several companies both in the UK and abroad to distribute their developer systems. They've also released a beta version of the new OS in the form of the SDK. Surely they've given us enough information to be going on with... ...don't you think?

Furthermore, consider the following three products: BoXeR, AmiJoe, and Amiga One. The first two have been announced, rubbished, hailed as saviours of the Amiga market, delayed, and re-announced on several occasions already. Where are they? How long have we been waiting for them since they were first announced? In contrast, how long have we been waiting for the Amiga One since it was announced?

Knowing about the BoXeR and AmiJoe (here at *Amiga Active*, we've seen and touched prototypes and reported on both several times already) has hurt the Amiga community more than it has helped it so far. Both products are still, it pains me to say, "vapourware".

Return to Amiga

Neither Mick Tinker nor Met@box will be the saviours of the Amiga market. It's time to stop looking to other people and refocus our attention on the company that has already put together a working system - albeit "merely"



a rebadged PC. Strange as it may sound after so many years of empty promises, Amiga are the ones producing the hardware (notice I didn't say "manufacturing"

before you all jump on me). They don't want to shout about it just yet, and who can blame them? Look where it's got those who have.

In case you're wondering, my earlier question, "how long have we been waiting for the Amiga One since it was announced?" was misleading, and intentionally so. The answer is that we haven't, because Amiga haven't officially announced it yet (not at the time of writing, anyway). Nevertheless, it's the one piece of hardware I'm looking forward to the most, and the one which will have the greatest impact.

Strange as it may sound for someone whose living depends on the Amiga industry, I want Amiga to keep quiet and stay below the radar - for real, this time. Amiga are a very small company who are currently without a Marketing Manager to handle the finer points of making announcements - even more reason for every single employee to focus on producing a computing environment that will shake the world in the same way as the A1000 did fifteen years ago. When they have a Marketing department and a product to shout about, I'll be one of the first in line to get all the information I can on a system that has the potential to change a lot of people's misconceptions about computing.

David Stroud

Rants and Raves



A License to Chill?

A bone of contention - but what is the fight about?

As people start to receive their new Amiga SDKs (Software Development Kits), inevitably the Internet forums have filled with a variety of comments pro and con. But the loudest dispute has not concerned holes in the documentation, or missing APIs, or disagreements as to the importance of Memory Protection. Rather, it has surrounded the issue of license terms.

Amongst those terms, Amiga specified that "...if you distribute any software created using the Amiga software, you must pay Amiga a quarterly royalty. You are also required to provide Amiga a report of your distribution and the right to audit your records." This upset a lot of people. The Amiga is all about freedom, right? So what's an Aminet contributor to do when Amiga come calling asking for their royalties?

Newsflash: it isn't

The license document that has caused all the fuss, Amiga have explained, is part of the terms for their voluntary developer's license scheme. This is not going to cause problems for the Aminet Freeware developer, or indeed the small developers who couldn't deal with the close auditing that would be required by the license agreement. They simply don't have to take the deal. What Amiga are offering is not quite the same as what Microsoft or Apple are offering; because their market spans the embedded sector, they want to be able to offer the levels of support normally provided to these companies, and expect them to pay for that extra support.

Compared to the licensing terms commonly used in the console market, Amiga's original terms were incredibly relaxed. Some companies have demanded

not only higher fees, but exclusivity of production, giving them even more revenue from developers. A developer working on the Playstation would love to have such favourable terms. Yet these companies can develop for free on the PC or Linux too, so why do they persist on paying big bucks in license fees?

The answer is that they get something for their money. In the case of a developer working for the Playstation, for example, they get a platform to write for that is well marketed and widely distributed, increasing the volume of sales they are likely to achieve. They know that their royalty fees will actually help them in the long run, because those fees allow Sony to make the platform as ubiquitous as it is.

When worlds collide

Amiga are in a strange hybrid position. On the one hand they are working at the embedded / consumer sector where such license fees wouldn't raise an eyebrow, on the other they are working at the desktop market, where these sorts of fees are not the norm. One of Amiga's challenges is to develop a strategy which allows them to move the Amiga into both markets, and for each market to benefit from the advantages of the other.

While the desktop market can be filled with applications from publishers of every size, shareware and freeware, consumer devices will be filled with branded, certified applications from companies who are willing to pay a fee to Amiga for the security of close developer relations, promotion and so forth.



Now the fuss about the licence terms is over and everyone realises that Amiga aren't about to introduce a license policy which would totally contradict their hopes of "hijacking" the Linux and Java development communities into the Amiga development community. That hasn't stopped the fuss, however. "Why wasn't this information correct in the first place?" people ask. Who cares? New company, small mistake, it happens. Everything's turned out the way people wanted it, so what's the beef?

It has almost become trendy in Amiga circles to proffer an air of cynical detachment, but it's impressive to see people rally around a good argument. Oddly, the level of criticism seems to be about the same whether it's Bill McEwen making a spelling mistake in a press release or Mehdi Ali making startling decisions at the Commodore helm. Amiga should be pleased with themselves, if people can find nothing worse than this to complain about.

Andrew Korn **A**

interact !

Agree? Disagree?

If what you've read on these pages has made you think, we'd like to hear your views. Send us a letter or e-mail to the usual address...

interactive@amigaactive.com

"...Amiga aren't about to introduce a license policy which would totally contradict their aims..."

First look: MorphOS

Finally, an Operating System for PowerPC Amigas.

We take a quick look at the preview release of MorphOS.

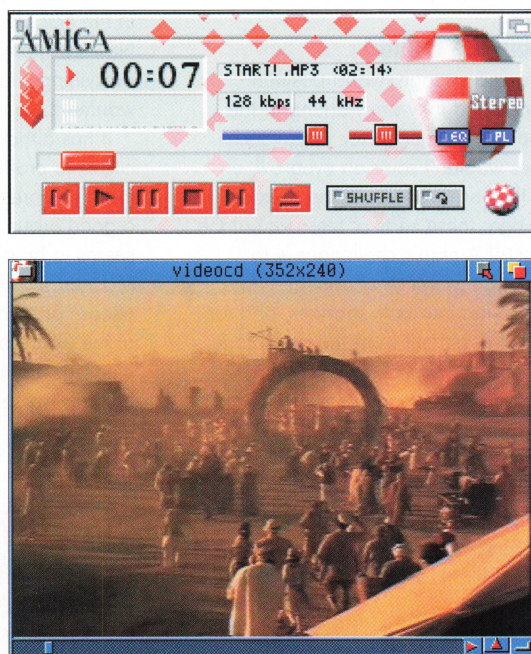
In terms of operating systems, we have been living on minor updates and empty promises for years; only OS 3.5 came to fruition. Now we have two new operating systems (sort of) released within a matter of weeks. The SDK is not a complete OS, but it is more than we've seen from the previous owners of Amiga. Now we have MorphOS, a way to run AmigaOS on PowerPC-equipped Amigas.

The first beta of MorphOS has only just been released, so this is not a review of a finished product. It is a first look at the beta, based on a fairly short experience. Bugs have already been found, and fixed - a new version will be available by the time you read this. For this reason, we have broken with our normal practice of including software on the CD for you to try yourselves. However, if you have an Internet connection, you can download the latest version from www.morphos.de. If you are not on-line, we should have something for you to try on next month's coverdisc.

MorphOS is not a complete rewrite of AmigaOS for PPC. It contains a replacement kernel and some replacement routines written for PowerPC, and a 68K emulator. Starting MorphOS fires up the emulator and reboots the Amiga. When it restarts, it is running entirely

on the PowerPC. Emulating the 68K processor is hard work for the PPC chip, and the job is made harder by the lack of an L2 (Level 2) cache on the PowerUP boards. The cache was omitted because it would have slowed down the switching between the PPC and 68K processors in the PowerUP environment. Once you stop using the 68K processor, you remove the disadvantage of the L2 cache, and increase the need for it. The emulation should run much faster on a PPC-only system, such as the AmiJoe.

MorphOS emulates a 68060. It doesn't run at '060 speed, but the instruction set of the '060 is emulated. MorphOS doesn't rely on emulation for everything; it is designed to work with programs written specifically for PowerPC. Such software will run much faster than 68K emulated equivalents, and often faster than PPC software running in the normal PowerUP environment. Whenever MorphOS tries to load a resource such as a library or device driver, it first looks for a file with a ".elf" extension. This means that libraries and drivers can be replaced individually. Dropping "xyz.library.elf" into LIBS: will immediately accelerate all functions from that library. The original xyz.library is still there, for when you're not running MorphOS. This first public version also contains



Above: PowerPC software works faster with MorphOS, although reading data from disk or CD is currently slower.

“MorphOS doesn't like the hacky patches that many Amiga owners love...”

PowerPC versions of several datatypes, the CyberVisionPPC and BlizzardVisionPPC monitor drivers, the RamDisk handler and NewIcon and ixemul libraries. There is also a PPC version of SFS, which we didn't try.

Getting started

Installation is a little complex. It's not that difficult, but it does involve altering your startup-sequence. First you copy a few updated system files to DEVS: and LIBS:. The rest of the MorphOS files go in their own directory. The startup-sequence has to be altered in a couple of places, adding checks for MorphOS and taking different actions if it is running. Or you can be a coward like me - I copied a working OS 3.5 set-up to a bootable Zip disk and installed MorphOS on that (this is a beta, after all). You still need to modify the startup-sequence, since you'll normally boot into AmigaOS first, then start MorphOS from a shell. You only need to 'cd' to the

MorphOS directory and type "execute setup". MorphOS will initialise and reboot your Amiga. When it restarts, you are running your new PowerPC operating system.

The reboot to start MorphOS means you can't have anything in your startup that reboots again, such as ShapeShifter's 'prepareemul', or the ROM updates in the OS 3.5 SetPatch. It also prevents you from accessing the early-startup menu. If you use a separate boot partition for MorphOS, it must have the highest boot priority. You'll probably want to edit the setup script. It defaults to sending debug information to the serial port, which is fine if you are programming and have a terminal attached to the serial port, but no good for trying out MorphOS as an end-user.

The installation and setup process sounds a little tricky, and it is. Everything you need to know is documented, but it is spread across several text files, so it's worth printing them out before you do anything else. However, this is a beta, and a first beta release at that. The most important thing at this stage is to make it work, not have fancy documentation and a hand-holding installer script - that should come later. If you are using a graphics card, you should have a way of viewing the standard video output. If something goes wrong during the first bootup, you'll need a way of seeing any error messages.

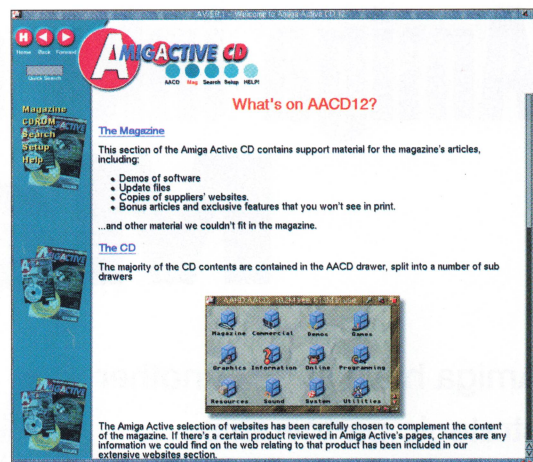
MorphOS doesn't like the hacky patches that many Amiga owners love, another reason for installing MorphOS on a separate partition. Alternatively, you could modify the morphos/startup script to rename your standard user-startup and replace it with a more modest one. Executive, MCP, Enforcer, CopyMemQuick and anything that uses the MMU (Memory Management Unit) is out. It almost goes without saying that WarpOS is not supported: only 68K and PowerUP programs will work.

Bye bye '060!

Enough of the pitfalls of installation, what's it actually like to use? For a first beta release, it works well. If you're used to the speed of an 060, you'll find it rather slow in executing 68K software - the emulation has some way to

go before it approaches 060 speeds. SysInfo rated it at two-thirds the speed of a 25MHz '040 on my 604e/233, although real world tests run faster than that. Using a BlizzardPPC with 040/25 and 603/240, there won't be a great deal of difference between native and emulated speed. However, your 68K chip will always be the same speed, never getting faster, whereas MorphOS' emulation will improve in speed. It's not that the emulation itself will get faster, but as more parts of the system go over to native PPC, there will be less load on the emulator.

RAM disk operation is noticeably faster, due to the PPC native implementation. RAM: is often slower than a PFS3 hard drive partition on my A4000, now it's nice and fast. Playing anims from RAM is significantly faster than from hard drive, because the hard drive has to use emulation for the filesystem and controller. This should improve with the PPC version of SFS, but there wasn't time to test that fully. With a PPC version of cybppc.device, it should really fly.



Above: This took a while longer to load with MorphOS, but it is exactly the sort of thing that will improve as various parts of the system and other applications are moved over to PowerPC.

"This first release of MorphOS is impressive."

This first release of MorphOS is impressive. Of course there are bugs and limitations, but it's not yet finished. Loading PPC versions of resources as they are installed means that upgrading both the OS and application software is much easier. CPU intensive parts of a program could be written for MorphOS and be used automatically. For example, all three web browsers already use external image decoder routines. Simply installing a MorphOS version should give an instant speed up.

Neil Bothwick **A**

Mighty MorphOS?

We timed a number of tests of real world tasks. All were done on an A4000 with CyberStormPPC using 060/50 and 604/233. The comparison column in the table shows the speed of the MorphOS test as a percentage of the native speed.

1 Running the Welcome script from AACD12. This is a real world test involving several common operations. Opening an application, loading libraries and fonts, decoding images. The time was from double-clicking the icon until the last image had loaded. The test used the hard drive master of the CD, so I could modify the Welcome script to calculate the timing.

- 2** Encoding one minute of AIFF audio to MP3 using the PPC version of LAME. It ran slightly faster under MorphOS.
- 3** Encoding the same audio using any of the 68K versions of LAME failed. It probably uses an instruction not yet supported by MorphOS.
- 4** Decoding a JPEG image with the PPC version of Djpeg. As with LAME, the PPC software ran slightly faster with MorphOS
- 5** Decoding the same image with the 060 versions of the software.
- 6** Opening a window full of large icons, AACD12:AACD/System/Icons/NI_box10

	AmigaOS	MorphOS	Comparison
1 Welcome	18s	78s	23%
2 Lame.elf	58s	55s	105%
3 Lame	331s	—	
4 Djpeg.elf	1.58s	1.52s	104%
5 Djpeg	7.35s	19.65s	37%
6 Open window	4s	13s	31%

Amiga inks deal with Matrox

Amiga have struck another strategic partnership, this time with graphics chipset firm Matrox. We take a closer look at the decision and find out what it means for the next generation Amiga.

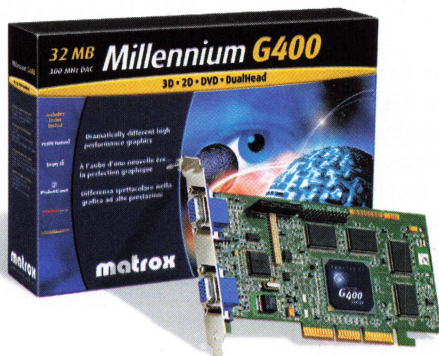
Amiga have announced that they are entering a strategic partnership with Canadian graphics chipset manufacturer Matrox. The announcement comes as no surprise after Amiga changed the spec of the devbox to replace an nVidia graphics card with one from Matrox.

The change is, however, an interesting one. It has been speculated that nVidia, who are working closely with Microsoft to develop the chipset for the X-Box, Microsoft's forthcoming games console, were simply not

view of a piece of artwork, or playing two player games without using a split-screen.

Matrox have always concentrated on high quality output, an approach which has won them many plaudits not just for video use, but also for 2D, where they are recognised as market leaders in the professional graphics arena. However, if the Amiga is to succeed as a domestic machine, games will be important, and Matrox do not have the reputation of nVidia or 3DFX in this field. The announcement raised a few eyebrows amongst people who think of Matrox as

"...the next wave of Amigas are going to turn 3D fiction into 3D reality."



very open to a close partnership with Amiga, while we have been told that Matrox are very eager to work closely with Amiga to produce the best possible software support for their cards and chipsets in the new Amiga OS. Amiga have told us that they are extremely pleased with the deal, not just because they are happy with the company they have partnered, but also because they are very happy with what they have seen of Matrox's future developments.

Perfect Partners?

In a way, it's a very obvious partnership. The Amiga has always been noted for its strength in 2D and video, and these are areas Matrox have traditionally performed extremely well in. They have concentrated over the past few years on creating cards that work well with video, including some of the best on-board MPEG-2 decoders, TV, RGB and DVI outputs, fast RAMDACs for crisp output and a variety of input options.

Recently they have lead the field with "Dual head" cards, which allow two output fields to be created simultaneously. This allows the computer to display two different screens on two different monitors - immensely useful for display systems, but also important for the consumer market, where it opens up options such as using a second monitor for a zoom

being second best in this field, but Amiga are convinced this is not the case. Amiga's VP of technology Fleecy Moss said told us that with, "...what Matrox have up their sleeves, the next wave of Amigas are going to turn 3D fiction into 3D reality."

Matrox first made an impression on the consumer 3D market with their current G400 chipset. While not quite the fastest polygon pusher for its time, it boasted high image quality, good resolutions, and a few advanced on-chip filtering functions such as environmental bump mapping and volumetric shadows, which add significantly to the realism of the images generated without the "cost" of a higher polygon count.

Although briefly impressing the market with its 3D prowess, the G400 chipset has been somewhat overtaken by the latest generation of graphics cards from Matrox's main rivals, although the card itself remains very popular because it offers great performance for the price and is very feature-rich, especially in display technologies. Of course, Amiga will need to be competing with the best in 3D, but then we haven't seen Matrox's next generation product yet.

The competition

The four main players in the graphics card market: 3DFX, nVidia, ATI and Matrox, fall

into two distinct camps. The first two approach the problem of moving polygons as the primary problem and implement ways to generate as many as possible. While both companies have found it necessary to look for other areas of improvement by offering functions like hardware transformation and lighting, the philosophy of the latter two companies is that polygons can only take you so far; other techniques have to be used to get the best visual performance.

One of the key factors in the development of graphics chipsets is Microsoft. They work with the major companies to provide a set of interfaces called DirectX for graphics cards. The DirectX standard means that developers can be assured that there is a means for them to address new chipsets, if the chipset has a DirectX driver provided. The standards of DirectX are developed in conjunction with the graphics chip firms, and are aimed at providing a common interface (mostly) for games developers to work with the featureset of the chip.

The evolving DirectX standard will include support for an ever-increasing set of features for improving not the simple throughput of polygons, but the way they are used. Features such as keyframing and mesh tweening will increase the amount of 3D animation that can be done at a given level

of throughput, while reflections, bumps and haze can be created in increasingly realistic and flexible ways, and more complex (even three dimensional) textures can be applied.

Choose your partners

This is where the Amiga / Matrox partnership makes sense. Polygons can only get you so far, so the key for future graphics cards is how well the card can use those polygons. This is where Matrox, like ATI's Radeon graphics chipset, look to be concentrating their attention. While some might have thought (given the history of their relationship under Gateway) that ATI would have made more sense as a partner, Matrox's upcoming G800 is rumoured to be quite a chip. The really important thing, though, is software.

Without DirectX, Amiga will be working on their own APIs which will have to address the features of the chip as well as DirectX can. Clearly, this being the case, the relationship between the two companies is of critical importance. For Amiga to be able to provide that level of support for any chipset, they will have to work very closely with the chip company, and have the trust and belief of that chip company. If they got that with Matrox but not ATI or nVidia, then the decision makes sense indeed.

Andrew Korn **A**



Above: Bump mapping can provide major improvements to realism.

Right: Bright, saturated colours; something Matrox are proud of.



THE CHIPS

The G400

This is the current workhorse graphics engine for Matrox.

- 0.25 micron die.
- 128 bit wide video interface.
- 32 bit texture precision.
- Displays up to 2048x1536 at 32bits,
- Environmental bump mapping.
- High-speed, high quality 300 MHz RAMDAC for high image quality.
- Vector and full-scene antialiasing.
- High quality DVD playback with alpha blended overlays.
- Dual head options for multiple displays.

The G450

The G450 is the latest revision of the G400, integrating extra functionality into the chipset, along with a die shrink and faster RAM for improved performance.

- 0.18 micron die.
- 32MB DDR (double data rate) memory.
- High speed, high quality 360 MHz RAMDAC.
- VCQ rendering architecture for more saturated colours.
- 256-bit Dual Bus architecture.
- Handles VGA, TV and optionally DVI (flat-screen) displays.
- Dual head supports six different combinations of displays.
- 3D graphics featureset of the G400

The G800

The G800 is Matrox's upcoming graphics chipset. They are keeping quiet about what they are doing, so there are few firm facts. A few possible details have leaked out, but they cannot be confirmed. The general rumour is that it will be similar to the 450 chip but will boast a much improved 3D engine with T&L (transformation and lighting) and DirectX 8 standard shading, running at about 25 million polygons per second. A text in the latest driver distribution hints that Matrox were at least planning on using a very fast FC-RAM interface.

Much wilder rumours abound on the 'net of a further generation of 3D hardware being produced for a next generation console from SNK, involving frankly unbelievable polygon and fill rates. We'll keep you informed..

Lights... Camera... Appl

Fancy making a Hollywood blockbuster without leaving your desk? Allow us to introduce the LithTech Film Producer.

Ever dreamed of making a movie? Every film fan wants to be the next Tarantino, Scorsese, Spielberg or Scott, but only a small handful ever achieve their dream. Few who try ever make it as a film director, and the chance of becoming an internationally renowned film-maker, on par with the aforementioned names, is remote indeed.

The biggest stumbling block for many aspiring movie-moguls is the expense of actually creating a film. Even a low budget production, filmed entirely on a single Digital Camcorder and edited on a DTV capable computer, can run up a frightening bill. Once your masterpiece is created, you must get it seen by as many potential editors/broadcasters as possible - which means recording the film onto expensive, high-quality cassettes - in the hope that they will view your production as the next *Trainspotting* or *Blair Witch Project*. All in all, it's an expensive gamble with an limited chance of success.

Not everyone can afford to buy a digital video camera and the necessary software, however. The Amiga has been well known for its video titling and special effects abilities - the most famous example being Ron Thornton's *Babylon 5* rendering - but when it comes to a full-blown video editing package with enough features to produce a professional-looking production, we're hardly spoilt for choice. PC users have Adobe's *Premiere* at their disposal and the iMac DV is specifically designed for video editing. You could of course buy Eyetech's *EZ-PC Digital Video* package, but that is a relatively expensive option. Even then, where are you going to find the budget for spectacular sets?

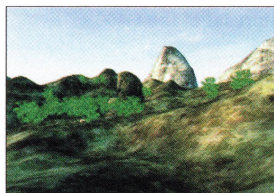
The movie of the game?

Now, help is at hand for the film-maker-on-a-budget. Edinburgh based Strange Company are using the LithTech 3D GOS (3D Game Operating System) - see issue 9's *Active Gamer* for details - to develop a new film creation application, code named LithTech Film Producer (LFP), due for release in 4-8 months.

Creating films using a 3D engine is not a particularly new technique. Coders such as UnFramed Productions have been producing short movies using the Quake and Unreal Tournament engines for some time. This "Machinima" film / animation technique is cheaper than traditional filmic styles, gives quicker results - as it is rendered in real-time rather than frame-by-frame - but has its own drawbacks. For example, rendering expressions requires the use of 'skins' - layers of graphics and textures - which results in larger file-sizes and slower render speeds.

The key to all Machinima film is that it is created in real-time, often on a single personal computer. Animated movies such as *Toy Story* are different in that they are rendered frame-by-frame - a process which takes hours to complete and requires a powerful network of computers - a "render farm" - dedicated to the task. The creators only discover flaws in the animation when the render is completed, so any mistakes will that the entire sequence must be altered and re-rendered. There are no such problems with Machinima.

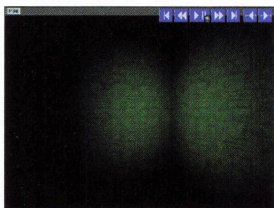
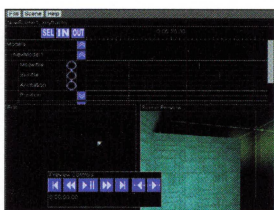
With LFP, Strange Company hope to widen the accessibility of Machinima-style movies. Hugh Hancock, Chairman of Strange Company and one-time Amiga user, explains: "[Machinima] needed a professional quality package with which to create films. We wanted that to exist - we wanted to create films using it and so we formed Strange Company to create that package and publicise Machinima and the possibilities it offers."



"...low budget indie films have moved away from the studios and onto the Internet."

In recent years, low budget indie films have moved away from the studios and onto the Internet. Unknown directors create their films using Digital Video - a cheaper and more versatile alternative to traditional 8mm film - and put them on their web site for people to download, thus gaining much-needed publicity. This method isn't limited to budget films. Eugenio Zanetti's *Quantum Project*, starring John Cleese, Stephen Dorff and Fay Masterton, cost \$32m to produce. This "click-flick" lasts for 32 minutes and costs the viewer \$4 to download, either as a 'standard' or high-resolution version for broadband connections.

Above right: This still demonstrates the LFP's use of scaling and effects like reflection.



From top:

- Keyframe tracking the LFP way.
- Playing the scene back.
- Lithtech Film Producer in operation.

Right: A lively (?) Saturday night at the outdoor disco.

Real-time movies

The LithTech engine then renders the film in real-time, allowing the user to view and alter the production in a fraction of the time required for traditional rendering processes. The finished film may be exported either as an AVI file or in the package's native format, which can be viewed using the LFPlayer. This will be distributed free of charge, bringing the films to a wide audience without restricting them to any Operating System's preferred Multimedia player.

Anyone with a copy of the LFPlayer will be able to view an LFP production at well above the resolution of a TV set (depending principally on the hardware used to play it), using a file format far smaller than any



conventional video codec - around 1MB/minute or less. This will allow those without broadband access (currently most of the UK) to download and view the films.

But what are the benefits of real-time rendering? Well, if films are created, edited and previewed in real-time they can be produced at a fraction of the time and cost of pre-rendered films. "[LFP] gives the producer a real-time environment to work in. Imagine working in [a program similar to] Lightwave where everything is presented fully rendered. No need for test renders, low-resolution sample animations, etc. Truly WYSIWYG." explains Joe Sera, a programmer for Hyperion Software (developers of the Amiga version of LithTech) who specialises in video graphics.

Why are we seeing Machinima emerge as a practical filmic art form at this time? "Machinima is a very young art form," explains Hancock; "The graphical power to make it practical has only become available in the last four years".

"I also think the time is right for the LFP from the point of view of the graphical capabilities available: new 3D engines like LithTech 2 look fantastic. We need that kind of graphical quality to carry the medium forwards".

Powered by Lithtech

Monolith's LithTech engine - currently being ported to the Amiga by Hyperion Software - was chosen because of its many 3D rendering features. As can be seen from the screenshots, LithTech supports shadowing and reflections as well as hard and soft body meshes, mist/fog effects, realistic lighting (which varies depending

on the time of day), terrain rendering and LOD (Level of Detail) control that ensures that polygons are used where they are most needed. Thomas Frieden of Hyperion Software described the engine as "a very powerful 3D platform" and highlighted the fact that LithTech benefits from "everything Unreal and Quake have [and more]."

These features, and the fact that LithTech is totally abstracted from any operating system, make it an obvious choice for the LFP application. "We feel LithTech is flexible enough to accommodate any given story situation and portray it in a convincing way" said Dan Miller, Monolith's PR Co-ordinator, when asked about the LithTech engine's suitability for the LFP.

"...encouraged by the progress being made by Amiga Inc., Tao Group and their partners..."

Is the LFP the way forward for the film industry? "The one problem with the technology is that it has to be fully interactive and must look like a movie, not an animation or, worse still, a computer game!" says Hobgoblin Director, Mark Forbes. "I'm more inclined to veer towards the old-school of film-making. Having only made one film, I had better hurry up before it's too late..."

Look upon their works...

Strange Company have produced one film, "Ozymandias" (pictured) - using an early alpha version of the LFP software. They assure us that the final version of the package will produce amazing results, both graphically and creatively.

Although Hancock is making no commitments, he did reveal that Strange Company are considering the possibility of porting the application to several platforms - including the Amiga - and are encouraged by the progress being made by Amiga Inc., Tao Group and their partners, who were equally interested in the possibility of the LFP being ported to the Amiga.

With Hyperion porting the LithTech engine, and a compact and portable OS which is able to operate on almost any hardware configuration and support multiple processors, it would seem that the new Amiga will be an ideal platform for a package like the LFP. "This [could] be Amiga's very first movie production software and, given the extent of creativity demonstrated by the Amiga community, [we should] expect lots of independent films!" enthused Joe Sera.

So, does the future of film-making lie in Machinima? That remains to be seen. One thing, however, is certain: The increased power and versatility of tomorrow's computers will shape the films of the future.

We'll leave you with the words of the Machinima web site (at www.machinima.com): "Welcome to the revolution. Have a very pleasant stay!"

Ross Whiteford

Online Info

Strange Company
www.strangecompany.org

UnFramed Productions
www.unframed.org

Machinima.com
www.machinima.com

Monolith
www.lith.com

Hyperion
www.hyperion-software.com

Quantum Project
www.sightsound.com

Pixar Entertainment
www.pixar.com

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Amiga SDK

Version 1.0

Get a glimpse of the Amiga's future with the first release of Amiga's Software Development Kit.

A new Amiga has come a step closer with the release of the Amiga Software Development Kit (SDK), version one. This is a package designed to lure developers, early adopters and the curious to the new - and as yet unformed - Amiga platform and give them a chance to experiment with the new technology.

The foundation for the new AmigaOS is Tao Group's platform-neutral intent multimedia environment, based on the Elate OS. Elate, intent - and hence the forthcoming OS from Amiga - are all written in VP (Virtual Processor) code, a portable binary format that is translated at load time into native machine code. Elate is designed to be run on any architecture that Tao support with a translator, either natively or hosted on top of an existing OS.

This first release of the Amiga SDK runs as a layer over Linux and X Windows (a graphical display environment for Unix-type operating systems, standard with Linux) on a standard x86-based PC. Amiga owners should not read too much into this, however. This platform was chosen because of the availability and affordability of the hardware and because Linux provides a stable base for development. Ports of the SDK to be hosted on Windows and PPC Linux are planned, and any software developed using the SDK will run on whatever hardware Amiga choose to adopt in the future.

The SDK package consists of Elate in the full intent form, which itself is comprised of the AVE (Audio Visual Environment), windowing toolkit, font engine and Tao's unique Java translator, as well as various development

"This is a package designed to lure developers, early adopters and the curious..."

tools and documentation. The tools are all shell-based and allow software to be written and debugged in VP code, C, C++ and Java. The documentation comes in the form of a 300-page printed manual and several forests worth of online guides and specifications in both HTML and PDF formats.

Installation

Various minimum specifications have been bandied about for hosting the SDK, but being Linux these are best taken with a pinch of salt. Obviously, the more CPU grunt, RAM and hard disk space the better, but I found the system perfectly usable on a 233 MHz Pentium MMX and quite nippy on a 350 MHz PII.

Amiga recommend Red Hat 6.1 as a software base, but we have heard that it also runs on SuSE 6.4, Mandrake 7.1 and Red Hat 6.0. All that is really required is a

recent 2.2 series kernel, X Windows and ESD (the Enlightened Sound Daemon). I've been successfully using the SDK on both Debian 2.2 and 2.3 for weeks. Of course, these requirements may change once Amiga begin releasing their parts of the new Amiga OS.

Installation of the Amiga SDK is laughably easy on systems using a Red Hat-derived Linux distro. Log in as root, mount the disc, cd to its root directory and execute the install program with

`./setup`. A dialogue will pop up asking you to agree to the license, fill in your developer ID and unlock code (obtainable from Amiga's web site) and the installation will proceed hassle free. On Debian-based systems, you will have to convert the RPM packages on the CD to debs with the alien tool before installing with dpkg.

You will still need to run the installer, though, to register as a developer with Amiga and be entitled to support.



Above: The graphical set up tool makes installation easy.



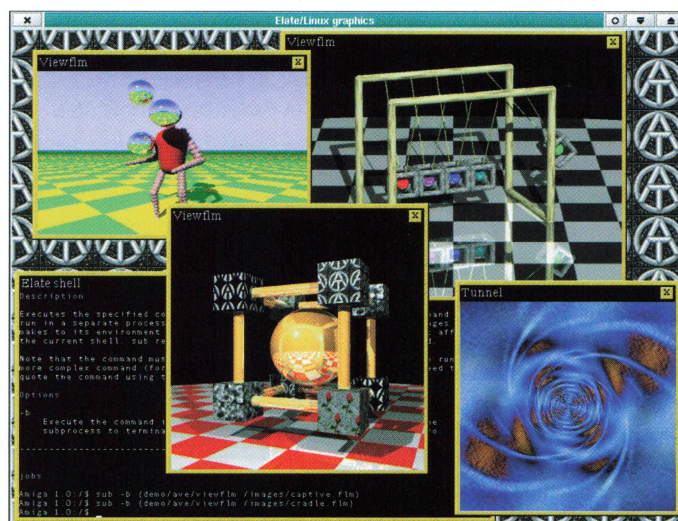
Although this scheme does complicate things slightly, it makes it easy to have a number of separate development

The Amiga shell is based on “zsh”, rather than the most commonly used Linux shell, “bash”. It’s perfectly serviceable, supporting the usual history, filename completion, I/O redirection and piping. However, its scripting capability is wildly

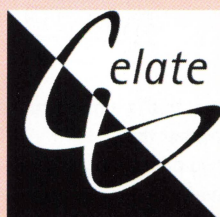
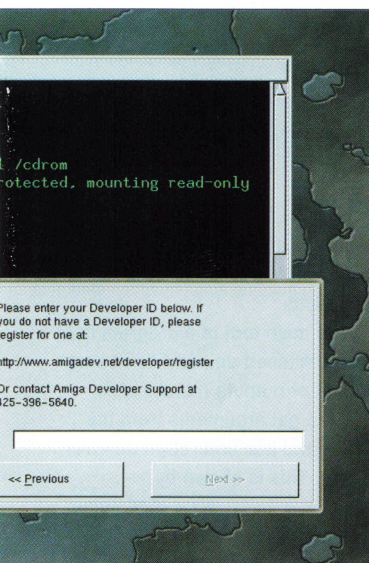
The shell comes with the usual range of Unix-style commands for file and directory manipulation, searching, and so on. Two text editors are provided, "ed" and "jove". Ed is the familiar masochist's line editor from Unix and jove is a lightweight Emacs look-a-like without the Lisp scripting. This is a potentially useful editor, but running it in an

Searchable online help is provided via the help command. This delivers HTML documentation to a terminal as text via a flat HTML pager (which doesn't support hyperlinks).

Shells are all very well, but you'll soon want to test out the new Amiga's multimedia capabilities as provided by **intent**. The core of **intent** is the AVE, an object-based system not unlike the Intuition's BOOPSI as used in current Amigas. The AVE supplies basic



Above: You can't tell it from a still picture, but the AVE is great at playing animations.



but cumbersome system. The code for every tool must contain the path name where it is stored, so you cannot copy a program or library to another place in the directory tree and expect it to work. It also means that when compiling a program you have to do so from Elate's root directory and reference all files and objects with their full paths - if you don't, you risk confusing the assembler or compiler. Tao Group are reportedly working to fix these problems.

► classes of object - application, window, gadget, image, sound, etc. - and takes care of object management and the communication between them and the user. It will be Amiga's job to build upon these foundation classes to provide an interface framework suitable for their target markets.

An example windowing toolkit is provided, which allows basic GUI applications to be built and has the standard range of widgets such as dialogues, buttons and scrollbars. It is a good starting point, but only an example, so it is a bit primitive. As it stands, for instance, there is no clipboard or drag-and-drop. The source code to this toolkit is not provided and the documentation incredibly brief, so using it (especially from C) involves some trial-and-error.

The good news, though, is that the AVE performs impressively even when hosted. It is possible to fill the AVE's X window with dozens of instances of the various demos supplied with no noticeable slow-down. Windows resize without a flicker and animations play without dropping a frame, no matter how much you load the virtual processor.

This is notable, because it's not something that the host X platform on top of which the AVE runs, can manage.

The other main pillar of intent is Java. intent's Java engine is unique in that, instead of using a conventional Java Virtual Machine (JVM), Java bytecode is translated into VP code tools on a per-class basis at load time. The advantages here are speed and efficiency. intent's engine has a remarkably

"Windows resize without a flicker and animations play without dropping a frame, no matter how much you load the virtual processor..."

small footprint and yet boasts execution speeds better than most JIT compilers.

(A traditional JVM interprets Java bytecode, but a JIT (Just-In-Time) compiler converts a Java program into executable code at load time. The problem with most JIT's is that they require large amounts of memory).

Java has yet to make a big impact on the desktop, but Amiga will be well placed when it does. The SDK is fully compliant to the PersonalJava standard. While this is fine for the embedded marketplace and for applets, Amiga should think about supporting Java 2 for the desktop.

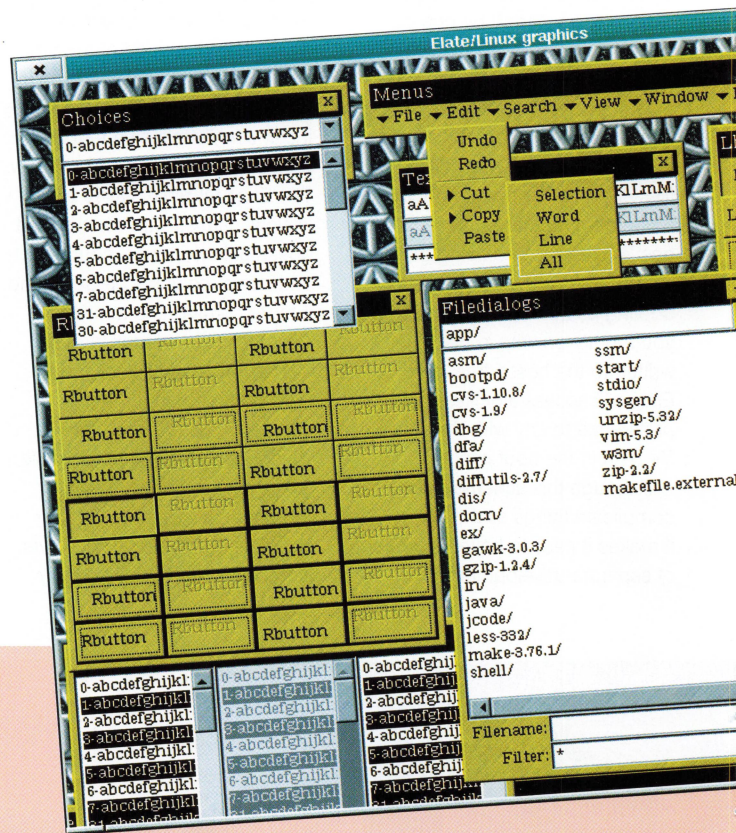
The write stuff

The programming tools that the SDK provides - the VP assembler, a port of the GNU C/C++ compiler and the Java compiler - are all hosted on Elate. This does mean that potentially you can develop on any platform, but it seems to be missing the boat

somewhat. Until people start porting tools to Elate, Linux provides a much richer and more flexible development environment. It would have made sense to include cross-compilers for Elate that run under Linux. Of course, you can use any platform and tools you wish to develop Java software.

VP code is Elate's equivalent of a real CPU's assembly language. It has all the benefits of a traditional assembly language and few of the disadvantages.

Below: The example GUI toolkit comes with all the usual gadgets and gizmos.



The anatomy of a VP program

Programming the new Amiga is much like programming the old one once you learn some basic concepts. Take a look at the listing 'aademo1.asm' (page 24). This is a VP code program which uses the AVE toolkit to display the AA logo and a button in a nice, size-adaptive window. It doesn't look too pretty, mainly because we've had to compress it and take out the comments to fit it on the page, but in overall structure it's not that different from doing the same thing under a BOOPSI system like Reaction.

Every program in Elate is made up of a series of tools - blocks of loadable code stored separately on disk and referenced by name. A single source file can contain several tools, each sandwiched between 'tool' and 'toolend' statements.

Our demo contains just one tool, the main program block itself. In line 6, we define this tool, giving the pathname by which it is called and the options VP and F_MAIN. VP tells the assembler that this tool is written in VP code and the F_MAIN says

that this is a main, runnable tool (rather than a library). The last two options specify the stack size and global data size.

The 'ent' statement in line 8 marks the entry point to the main procedure of our program and gives its calling signature. Such a signature is of the form <inputs>:<outputs> where <inputs> is a list of registers which the procedure uses as

inputs and <outputs> is a list of registers to which it returns its results.

The main tool of a program is a self-contained unit and so has no inputs or outputs (library calls exist to get arguments from the command line and return an error code). This is shown by '-:-'.

In lines 10-12, we define some synonyms for register names. This begins a block similar to

VP code instructions map visibly onto the sort of instructions that the target processor will use when the code is translated, so programmers can get a feel for what's really happening in their programs. However, VP code is portable and - thanks to an infinite set of registers, some clever macros and 'variable' scoping - can be programmed like a high-level language.

Developing in VP is thus much easier than developing in a traditional assembly language while still retaining that closeness to the machine. If you are already

familiar with a machine code, picking up VP will be easy. The manuals cover the subject well and most of the documentation and examples focus on VP code.

In comparison, the SDK's support for C and C++ seems rather half-hearted. This is rather short-sighted because to be successful on the desktop and above, Amiga will need to leverage a lot of open source projects onto the platform, most of which are written in C or C++. Okay, Amiga supply the industry standard GNU compilers and GNU 'make', but porting non-trivial packages is a headache.

Although standard POSIX and ANSI libraries are provided, many of the other common Unix functions are not. There's no fork() or vfork(), for instance. Moreover, porting graphical applications will be a major undertaking until somebody produces a compatibility layer for X or ports one of the common graphical toolkits such as GTK+ or Qt. The documentation is also rather deficient for developing in C.

Summing up

The SDK is only a beginning as far as the new Amiga platform is concerned and while it is lacking in features, its performance does impress. Tao are certainly living up to their part of the bargain by supplying an OS foundation that

fulfils the Amiga ideal of efficiency. It is now up to Amiga to provide the flexibility and ease-of-use.

My main worry with the SDK is a lack of information of where Amiga intend to go from here. The AVE provides an excellent basis for multimedia delivery, but for developers to begin writing applications, they need solid information about the components that Amiga are going to provide. What will the GUI API look like? Will they supply the Renderware 3D toolkit, the Koan sound system and MathEngine (three of the impressive technologies that Tao have signed up)? If Amiga intend to scale their OS to servers, what about security? Currently, Elate has no Unix-style ownership of processes and no memory protection.

While there are some significant omissions from this SDK, Amiga have set the ball rolling. We are promised numerous upgrades to the current SDK, which should fill in the holes that currently make it a bit difficult to develop any major application. While we expect a fairly significant upgrade after the summer, there's enough in the SDK to get our teeth into, which is exactly why Amiga released it with so many questions unanswered. That being so, the SDK's current shortcomings can be forgiven.

Richard Drummond **A**

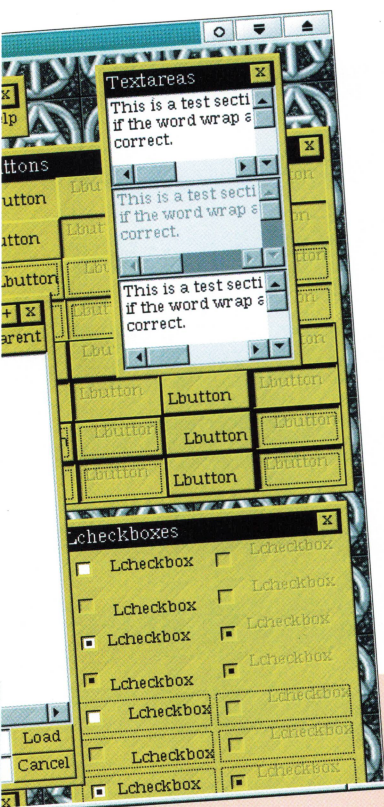
Support

Software is only one half of a development program; developer support is the other. Amiga's support web site is yet to go live at the time of writing, but they do provide some online support in the shape of a web-based forum. E-mail and phone support is available from Amiga once your SDK is registered. Amiga also host a CVS server and FTP site which developers can use to exchange programs and ideas. But what's really lacking at the moment is information and example code.

SDK 1.0

SYSTEM: Red Hat Linux 6.1, 64MB RAM, 100MB hard drive space.

SUMMARY: An interesting start, but Amiga have a lot of work to do.



high-level languages, and these names are in scope until the block ends in **line 59**.

In VP code we have an unlimited number of registers, so we can use registers as local variables. Assigning names to the registers just makes the program more readable.

In effect, **line 10** defines some pointers that we'll need later on, and **line 12** some integers.

Leave your qcalling card

An Elate tool is called by a 'qcall' statement which takes the name of the tool and a call signature, as described above, giving the registers we wish to pass to the tools and the registers in which we expect to get results from the tool.

Much of Elate is object-based, so once an object has been created we can use an object-

based way of communicating with it. We invoke an object's method with 'ncall'. This takes a pointer to the object, the name of the method we wish to call and the familiar call signature.

If we are not interested in some of the values that a tool or method returns to us, we can notify the assembler of this.

Take a look at **line 25**. This invokes the 'aveinfo' method of

the 'ave' object and returns five values. In this case we only need the third value, 'type'. However, we still need to specify the types of the other values. We do this with place-holders. So 'i~' in the return list is saying, in effect, 'this value is returned in an integer register but don't save the result'.

Now that's out of the way, turn the page for a brief overview of the complete program.

"Much of Elate is object-based, so once an object has been created we can use an object-based way of communicating with it."

► Finished!

An overview of our first program for Amiga's SDK...

Lines 14-20 initialise the AVE for us. Lines 21-35 build the GUI. We open a window, and create the image and button. These get added to the window under the control of a vertical layout manager. Lines 36-38 set up lines of communication between our window and our program. Once everything is done, lines 39 and 40 ask our window what size it would like to be and sets it to that size. Line 41 updates the window with the changes we've made.

The main loop of the program (lines 43-47) is similar to how we'd do things under Intuition. We loop, waiting for events, processing the ones we're interested in. In this case, we've set up the window to send us an EV_QUIT event when its close gadget is pressed, as will the button when it is clicked and released.

Building AADemo

We've supplied the code for AADemo on the coverdisc. In Linux, cd to your Elate root directory and make the directories 'demo/ave' and 'images' if they don't already exist. Copy 'aademo.asm' from the coverdisc to 'demo/ave' and 'aalogo.gif' to 'images'. Then start Elate.

Once in an Elate shell, the program can be compiled from your Elate root directory with 'asm demo/ave/aademo.asm' and run with 'ave/aademo'.

aademo1.asm

```
01. .include 'taort'
02. .include 'ave/toolkit/toolkit'
03.
04. WIN_FLAGS=FDI_INNER|FDI_CLOSE|FDI_BORDER|FDI_TITLE|FDI_CONTENT|FDI_DRAG
05.
06. tool 'demo/ave/aademo',VP,F_MAIN,0,0
07.
08. ent -:-
09.
10. defbegin 0
11. defp ave,app,tkit,layout,prp,win,pix,cnt,msg,avo,but
12. defi type,evt,w,h
13.
14. qcall sys/kn/dev/lookup,(avename.p:ave,app)
15. ifnoterrno ave,true
16. ncall ave,open,(ave,app,0,0:app)
17. ifnoterrno app,true
18. ncall ave,opentoolkit,(ave:tkit)
19. if tkit != 0
20. ncall app,getprop,(app:prp)
21. qcall ave/layout/vertical/open,(FAVO_FILLWIDTH:layout)
22. if layout != 0
23. ncall tkit,creatdialog,(tkit,prp,appname.p,0,p,0,0,WIN_FLAGS:win)
24. if win != 0
25. ncall ave,aveinfo,(ave:i~,i~,type,i~,i~)
26. qcall ave/avo/pix/besttype,(type:type)
27. qcall ave/cnv/share,(pixname.p,type,0:pix)
28. if pix != 0
29. ncall tkit,createbutton,(tkit,prp,label.p,0,p,0,0,0,0:but)
30. if but !=0
31. ncall win,getgadgets,(win:p~,p~,cnt)
32. ncall cnt,addlayout,(cnt,layout:-)
33. ncall cnt,add,(cnt,but,0:-)
34. ncall cnt,add,(cnt,pix,0:-)
35. ncall layout,layout,(layout,cnt:-)
36. ncall win,addlink,(win,app,CH_DIALOG_ACTION,EV_QUIT:-)
37. ncall win,addlink,(but,app,CH_BUTTON_ACTION,EV_QUIT:-)
38. ncall app,add,(app,win,0:-)
39. ncall win,getprefsize,(win:w,h)
40. ncall win,change,(win,0,0,w,h,CM_NONE:-)
41. ncall win,update,(win:-)
42. repeat
43. ncall app,getevent,(app,-1.1:avo,msg,evt)
44. continueif avo=0
45. ncall avo,event,(avo,msg,evt:-)
46. ncall ave,freeevent,(ave,msg:-)
47. until evt=EV_QUIT
48. endif
49. endif
50. endif
51. qcall ave/layout/close,(layout:-)
52. endif
53. ncall ave, closetoolkit,(ave,tkit:-)
54. endif
55. ncall ave, close,(ave,app:-)
56. endif
57. endif
58. ret
59. defend
60.
61. data
62. avename: dc.b '/device/ave/'
63. appname: dc.b 'AADemo',0
64. pixname: dc.b '/images/aalogo.gif',0
65. label: dc.b 'Quit',0
66.
67. toolend
68. .end
```

¶ denotes the end of a line. **A**

Above: Our first SDK program, up and running in Elate.

Keep taking the TABLETS

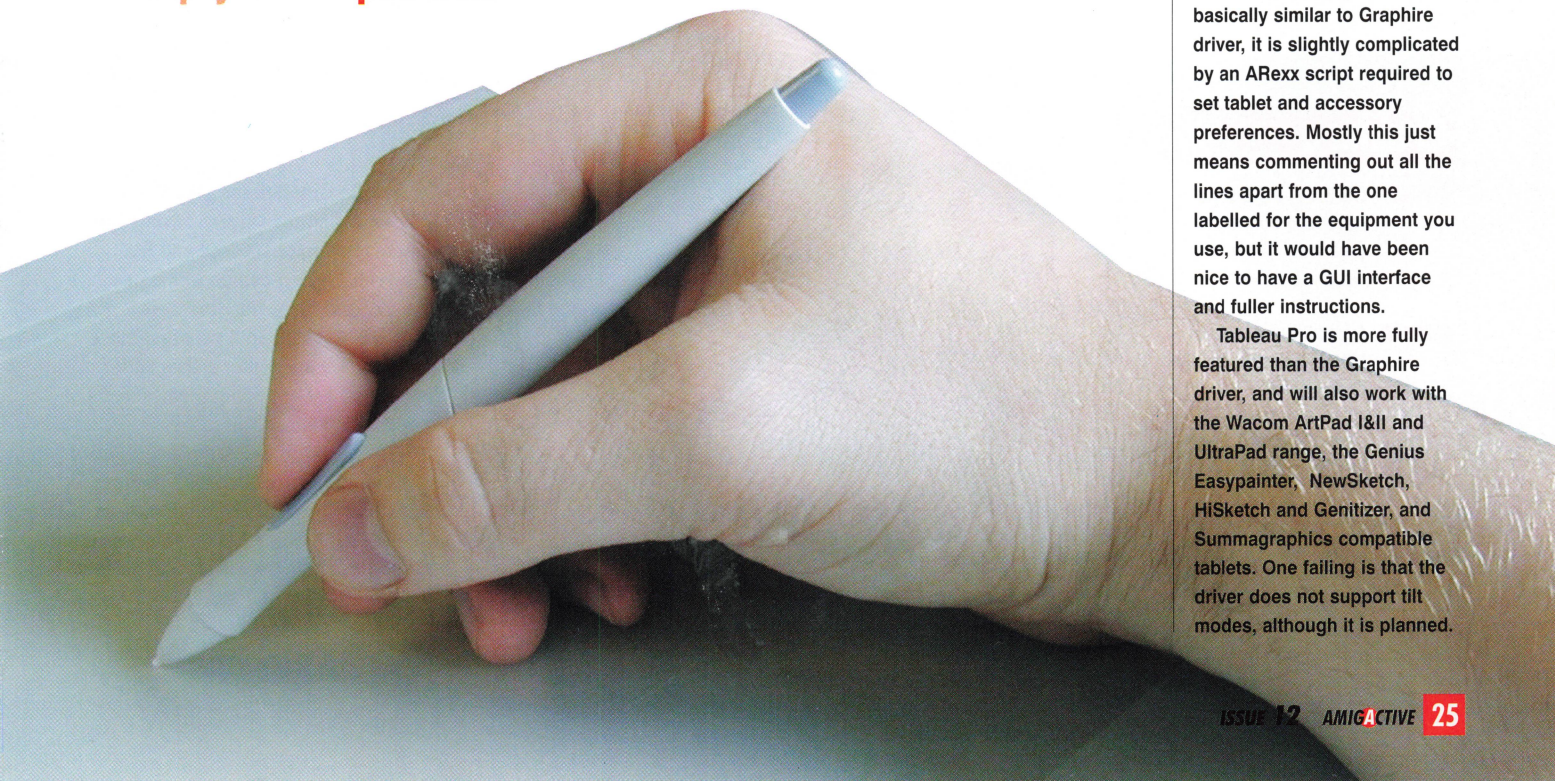
If you're still drawing with a mouse, let Wacom and Haage & Partner show you a better way...

Whilst the Amiga might not be quite as focused on art and design as the Macintosh, graphics are certainly one of the major uses Amigas are put to. This being the case, it is surprising just how alien graphics tablets are to the Amiga. Even to a skilled practitioner, the mouse is a far cruder instrument than the pencil or the brush. The simple answer to replicating the control of traditional tools for computer graphics is to actually use those traditional tools as an input device - and that, basically, is what graphics tablets are all about.

Your mouse is a relatively simple device, and not really intended for subtle work. It (almost certainly) consists of two rollers and a rubber ball in a plastic case with some buttons. As you move the mouse, the rollers roll, telling the computer how far you have moved in directions X and Y (left/right and up/down) since the last time the computer checked. By regularly checking the mouse input and updating the cursor position many times as second, the computer allows you to move the cursor from where it was to another place, with enough accuracy to select a word or an icon. A pen, by contrast, can be easily positioned to great accuracy. What's more, a mouse is either on or off, while a pen, pencil or brush can make a wide variety of marks depending on how it is used. ►



**“Nevertheless, a rubber ball
is simply not a precision tool...”**



Driving Tablets

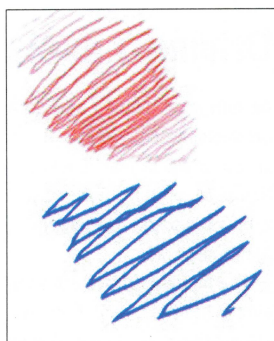
As with most generic hardware products, Wacom offer a choice of PC or Mac. Luckily Haage & Partner got friendly with Wacom and can supply Amiga drivers.

The tableau drivers are very simple but functional. Settings are achieved via icon tooltypes - not quite as nice as having a GUI, but no real difficulty. If you buy a Graphire tablet from Haage & Partner, you'll get a Graphire specific version of the Tableau drivers included; otherwise you can buy the driver as a stand-alone package for 89DM (about £27/US\$45). While some may complain that this is quite a lot for a driver, it's perfectly fair given the small marketplace. What's more, the inclusion of ArtEffectSE is a sweetener that makes the price look very reasonable indeed.

For the same price, you can get a Tableau LT driver for the Intuos A6. To go bigger than this, you'll need to pay a slightly pricier 149DM (about £45/\$67) for Tableau Pro. As with the Graphire, the price given elsewhere for the A4 Tablet is Haage and Partner's price, which includes the appropriate driver.

Although the Tableau Pro is basically similar to Graphire driver, it is slightly complicated by an ARexx script required to set tablet and accessory preferences. Mostly this just means commenting out all the lines apart from the one labelled for the equipment you use, but it would have been nice to have a GUI interface and fuller instructions.

Tableau Pro is more fully featured than the Graphire driver, and will also work with the Wacom ArtPad I&II and UltraPad range, the Genius Easypainter, NewSketch, HiSketch and Genitizer, and Summagraphics compatible tablets. One failing is that the driver does not support tilt modes, although it is planned.



Above: Spot the difference. The red line at the top is drawn with a graphics tablet, the blue line at the bottom with a high quality mouse.

No more mice!

Probably the nicest mouse I have come across for drawing is the Wizard three-button mouse, with a high resolution of 560 DPI (dots per inch). The mechanics are beautiful, allowing you to draw very smooth lines. Nevertheless, a rubber ball is simply not a precision tool, and I'd take pretty much any graphics tablet over that mouse any day.

Graphics tablets are flat panels connected to your computer via a serial interface, which contain a fine grid of wires. The position of a stylus is sensed by these wires, and that data sent to the computer. This allows the computer to map the physical position of the stylus within the panel area to an equivalent cursor position on the screen, meaning that you are working with an absolute position rather than a relative one.

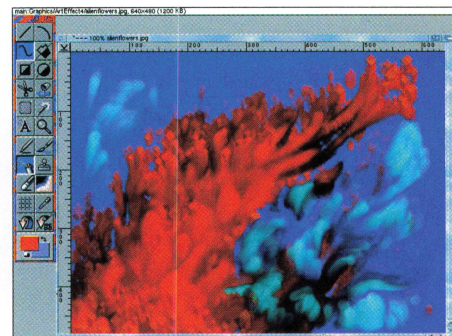
Try drawing lots of fine hatching lines with a mouse and you'll see the problem - you have to accurately step or zigzag the mouse, a very tricky task. With a tablet you can simply place the stylus point slightly further along the virtual page for each stroke, just as with a real pen. The mouse simply isn't accurate enough for drawing fine lines, and too bulky for drawing intricate detail.

Early graphics tablets, such as the Commodore 64 Koala Pad, used pressure switches activated with a simple plastic stylus (or a finger if you liked). A smoother, more durable approach is to use a magnetic sensor. Amiga tablets such as the Tabby and the Micronik tablets available recently use this method.

The best tablets, however, are not simple pressure switches, but are pressure sensitive. What this means is that, with appropriate software, the harder you press, the darker the line you draw. Traditionally, good pressure sensitive pads have been rather expensive, but that has been changing just recently, and Haage & Partner's Tableau drivers allow many modern pressure sensitive tablets to be used on the Amiga.

High-end, low-end

The two models of tablet we looked at are from the Wacom range; this is probably the best-known and best-liked



brand of tablet. We primarily wanted to look at the impressively cheap Graphire, but we also examined a top of the range A4 Intuos tablet (there is actually an A3 tablet in the Intuos range, but that's more than most people would require). Connection for both tablets is blissfully simple - just plug them in (you'll need a 9pin to 25pin serial port adapter) and you're pretty much ready. Then, copy the driver files to your hard drive, click on the icon and it's all working.

The Graphire is a small tablet, about 200x210mm, with an active "screen" area of 128x92mm (a little smaller than A6). It sports smooth ergonomic lines for comfortable hand-holding and a small pen holder which is a little too shallow to retain the pen if you tilt the pad. The Intuos A4 is a much bigger beast, 430x338mm, with a 304.8x240.6mm (A4) active area. It's too big to hand-hold, but is small enough to fit on your lap if your desk is as crowded as mine. It comes with a stand-alone pen holder, which is probably a better idea than the Graphire's integrated holder. Both pads have a transparent overlay for you to slide templates or anything you might want to trace beneath.

The Wacom tablets are supplied with a neat, wireless pen. It feels comfortable in the hand, and is a delight to use compared to styli that are attached to the tablet by a wire. There's a programmable button on the barrel, a pressure sensitive button tip and a pressure sensitive

Graphire

SYSTEM: OS 3.1+, PS/2 style keyboard connector (see text), Tableau Graphire driver.

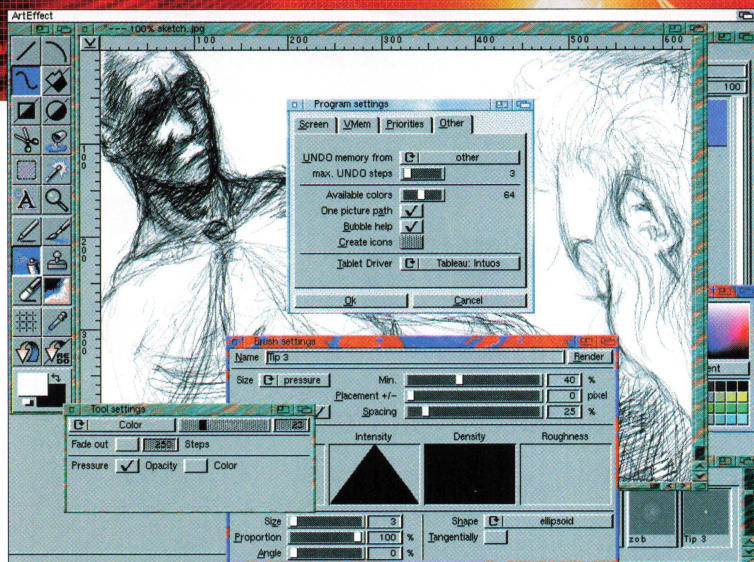
SUMMARY: A small but excellent tablet at a ridiculously cheap price.



Graphire

Haage and Partner sell the Graphire for 249DM (about £75/US\$115), including the Driver software and ArtEffectSE. It has a resolution of 1000dpi and 512 levels of pressure sensitivity, and comes with a pen and mouse. This quality and these features were unheard of at this price until very recently - at this cost, any computer artists still using a mouse are doing themselves a serious disservice.

One minor problem, however: Power is supplied through a PS/2 through-connector. That's fine if you have an A4000, but for an A2/3000 you'll need a DIN to PS/2 adapter, and A1200 owners will need a keyboard adapter (and DIN to PS/2 adapter if appropriate).

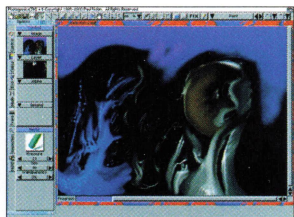


“...if you're an artist you need a pressure sensitive pad.”

“eraser” button on the top. In basic use, the tablets simply mimic the use of a mouse, so you can navigate about your Workbench, clicking on icons and selecting menus. The pen tip replaces the left mouse button, whilst the eraser or barrel buttons perform the same function as the right mouse button. This means that the tablets will work with any Amiga software, although they will only come into their own with software that supports pressure modes.

Intuitive drivers

The tableau drivers use the standard AmigaOS Intuition inputs for position as well as sensitivity, making the tablets compatible with basically anything from DPaint upwards, although you need software that actually supports pressure sensitivity to benefit from it. ArtEffect, FXPaint and Photogenics all fully support pressure sensing, and are all transformed by using a tablet. The exact way in which pressure information is used differs



very slightly from program to program. ArtEffect probably has the best support, although if you prefer the interface ergonomics of FXPaint or Photogenics, you'll

be just as satisfied with the support in these. All of them will use sensitivity data to make stronger or fainter lines, and all will allow you to use the eraser tip to delete, but ArtEffect offers a couple of extra possible parameters. If you don't already have a library of paint packages, you'll be pleased to know that a special “lite” edition of ArtEffect is bundled with the drivers.

There are various additional devices that can be used with the tablets. The Graphire comes with a three-button mouse, which can be run at up to the tablet's maximum resolution of 1000 dpi. The mouse has to be used on the tablet to work, but on the other hand it's a nice enough mouse, and having no roller it never needs cleaning and will presumably go on working for ages. The Intuos range boasts various extra accessories such as an inking pen which allows you to draw on a piece of paper at the same time as on the screen, and an “airbrush” with a thumb control for pressure. Extra pens and mice cost in the region of £50-70.

It's hard to think of much wrong with either of these tablets, or the software Haage and Partner offer with them. Basically, if you're an artist you need a pressure sensitive pad. The Graphire for the first time offers a really decent pad for a very affordable price, while the Intuos provides a superior product in much larger sizes. What are you waiting for? Buy one today!

Andrew Korn **A**

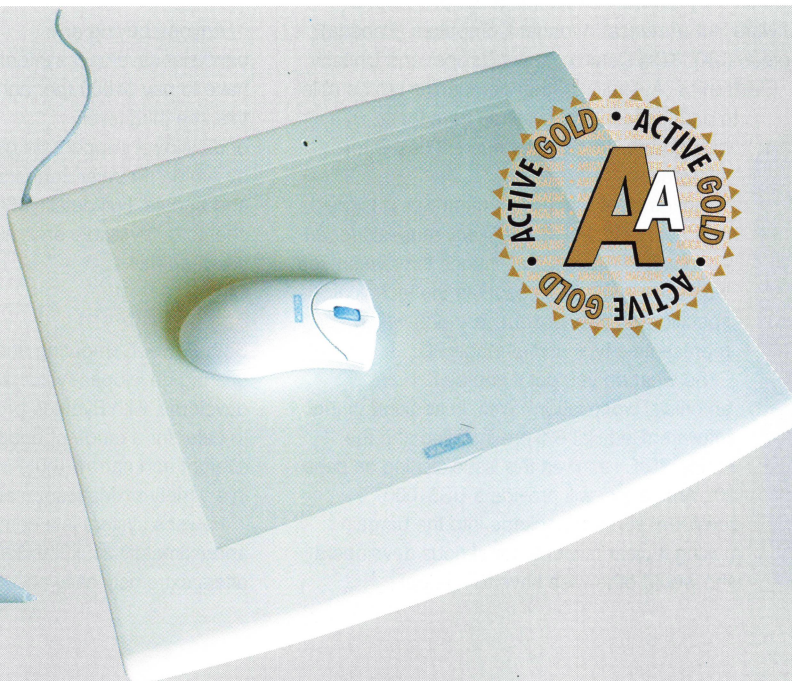
Above left:

- A proper graphics tablet allows a far wider (and weirder!) set of marks to be made.
- Various pressure settings. Note that there are options to control brush size and colour as well as brush pressure using the pressure sensitivity. The image in the background is drawn with a single brush, and demonstrates the variety of marks that can be made thanks to the Graphire's pressure sensitivity.

Left (inset): The drivers are universal - here's Photogenics benefiting from the additional control and finesse of an Intuos.

Intuos A4

Haage and Partner sell the A4 Intuos for 929DM (about £280/US\$420), including the Driver software and ArtEffectSE. The Intuos range has 1024 levels of pressure sensitivity and a 2540 dpi resolution, giving a noticeably smoother action than the Graphire. It also comes in larger sizes than the smaller Graphire.



Intuos A4

SYSTEM: OS 3.1+,
Tableau Pro driver.

SUMMARY: Bigger, bolder,
better, pricier.



Develop D'

All you ever wanted to know about Developer Boxes...
but were too confused to ask.

If there's one thing we haven't seen an awful lot of in recent months, it's hardware. Or, more specifically, hardware sporting an Amiga badge. Although it may be assembled from generic PC components, that's exactly what we've been looking at here in the Amiga Active offices recently in the form of next generation Amiga development systems.

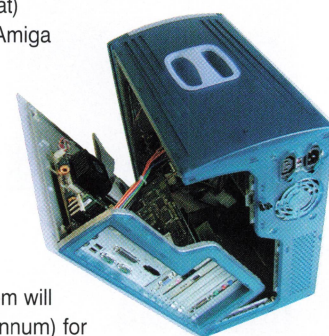
Since Amiga announced the official specification of their development system - termed the "d'Amiga" - in July, several Amiga companies including Eyeteck, Power Computing and Computer City have put together their own individual offerings based on Amiga's specification. Although some are not officially supported by Amiga (hence the lack of the word "Amiga" in their names), any of the following systems can be used to port tools and develop applications for the new Amiga operating environment.

But what's on offer from each company? Why choose one over another, and if you already have a PC that you want to turn into a development system yourself, how do you go about it? Where on earth do you start? Well, you just have. Read on...

approximately £700 on top of the cost of a development system to obtain such support.

The package included in the price of an official developer system provides 90 days of personal support from Amiga Inc's developer support group and 12 months of "TrailBlazer" level support, a web-based, fast-response support forum which promises the following:

- 48 hour turnaround on issues, requests, information, tools, documents and beta builds from time of availability (normally one week).
- Beta software available to download via Amiga's Developer Network (ADN).
- Faq-O-Matic system for frequently asked questions
- 15 percent discounts for developer conferences and printed documentation.
- Searchable database of bugs, beta testers and developers.
- Access to code samples, message boards, mailing lists, on-line developer documentation, Internet messaging and all other web-based developer materials and tools.
- IRC (Internet Relay Chat) sessions with internal Amiga Inc. programmers and senior management.
- Monthly feedback to developers direct from Amiga President & CEO, Bill McEwen.



"Amiga Inc. will provide a US\$1000 developer support package into the bargain..."

Below: Power Computing's translucent tower folds out (inset) for easy access.



The official solution

Amiga's official "d'Amiga" development system is distributed by several companies around the world: Software Hut (America), Wonder Computers (Canada), Eyeteck (UK), KDH Datentechnik (Europe) and Unitech Electronics (Australia). Other companies will be able to obtain the official systems from these distributors, so call your nearest dealer for information.

Amiga state that the d'Amiga was designed, "in direct response to the many requests for an economical workstation", hence the reason you won't see 1GHz processors in the technical specification (see boxout, far right) which represents a typical mid-range PC.

So what do you get if you buy an official workstation? Well, in addition to the software (Red Hat 6.1 pre-installed and the Amiga SDK, reviewed this issue starting on page 20), Amiga Inc. will provide a US\$1000 developer support package into the bargain, making it clear favourite for serious developers who would otherwise have to fork out

Anyone buying an unofficial developer system will have to pay \$1000 (per annum) for this, the third level of developer support out of the four due to be offered by Amiga: Premier Partners, Pathfinders, Trailblazers and Scouts. Full details of all levels of developer support should be available on Amiga's web site by the time you read this.

Buy British

Both Power Computing and Eyeteck in the UK are offering developer systems for the aspiring British Amiga developer, with Eyeteck providing four separate systems to cater for a range of budgets, and Power taking the straight and narrow route of providing one configuration in a variety of iMacesque colour schemes.

Power's system is a compact affair, measuring approximately 215x380x390mm. Its translucent case offers extremely easy access to the unit's insides by

Amiga!

unclipping two blue clips on the right hand side and allowing the side panel, hinged at the bottom of the case, to drop open like a drawbridge.

In terms of drive bays, the Power Devbox contains four 3.5" (two internal) and two 5.25" bays. The existing hard drive and floppy take up two of the 3.5" bays, and the CD-ROM occupies one of the 5.25" slots. Not a great deal of room for expansion then, but sufficient for the addition of a CD re-writer, possibly an internal zip drive and another hard drive, for example.

Eyeteck's offerings, meanwhile, cover a wide range of specifications and budgets. Each configuration is available in three styles of case (d'Amiga, EZTower TransAm, and as an upgrade for existing EZTower (not Z4) owners) to suit the internal hardware.

Available configurations are outlined in detail in the comparison table (see boxout), and are intended for use at different levels of development. The entry level system is a relatively low-spec affair with a price point to match, with an integrated motherboard combining 8MB AGP graphics, sound, a 56k modem and 10/100Mbit networking capability onboard.

Those who wish to port utilities and smaller applications may be happiest with the Utility Developer system, incorporating a Gigabyte Super Socket 7 motherboard, 128MB of RAM (double that of the entry level system) and separate sound, graphics and networking cards. A modem isn't supplied in this package because Eyeteck expect most people who are interested in this system will already own one.

The same can be said about the Level 1 Multimedia



Above: Not content with one, Eyeteck are offering a range of development systems.

system, which also comes without a modem. Sporting higher quality sound and graphics (Soundblaster and a Matrox G400 respectively), as well as a slightly faster CD-ROM drive (48x as opposed to 40x), the only aspect which may raise a few eyebrows is Eyeteck's decision to plump for the single-head version of the Matrox graphics card - although an upgrade is available for an extra £35.

At the top of Eyeteck's range is the Level 2 Multimedia system, intended for those who require an all-in-one solution. With the addition of a CD-Rewriter and the inclusion of an internal hardware 56k modem (not to mention the Soundblaster Platinum sound card), this system has virtually everything the serious developer will be needing for the foreseeable future, notwithstanding a faster processor and an extra hard drive.

Official Spec

The official specification isn't a fixed necessity; it's basically a list of recommended components. Amiga have selected a good balance of price to cost - the AMD processor is very cheap indeed, and while it's a long way from current Gigahertz models, it's nevertheless a very competent chip and excellent value.

The motherboard is a high quality model, and the graphics card is an interesting choice; more than a 2D application developer needs, but not up to the standards of the best 3D gaming cards. It makes sense, as Amiga are developing close bonds with Matrox, and thus support will initially be best for machines equipped with Matrox graphics chipsets. The choice of the dual head Matrox card is intriguing,

and hints at future features of the new Amiga. Dual head cards have two output channels, allowing a second monitor to be used for multi-display purposes, ideal for public display systems, but also applicable to tasks where you might want different screens or windows to appear on secondary displays, and for 3D virtual reality games or applications. The other components are very standard devices.

One omission is the lack of a CD-Writer. Obviously they aren't cheap, while the Devbox is meant to be, so it's understandable why one wasn't specified. However, developers need to move code around, so it would be a useful thing. One of the Eyeteck units comes with a CD-RW drive, and any of the others can have one added.

The technical specifications of the official "d'Amiga" system, which comes with two years' parts & labour warranty, are as follows:

- Motherboard: Gigabyte GA-5AX
- CPU: AMD K6-II 3D 500Mhz
- Memory: 128MB SDRAM
- Hard Drive: 10GB IDE
- CD-ROM: 40x
- Floppy: 1.44MB
- Sound: Creative Soundblaster Live PCI-16
- Video: Matrox G400 Dual Head
- Speakers: 160W
- Network: Linksys NC100 v2.0

Below: Computer City's funky-looking Blue Box: visually and functionally flawless.



▶ All of Eyetech's systems come with SuSe Linux 6.4 on a ready-to-install CD, chosen over and above Red Hat Linux because, Eyetech say, it's more user-friendly. There aren't any issues getting the SDK to work on this flavour of Linux, and potential buyers can be reassured that all systems are officially supported by Amiga.

something that would be at home as a prop in the Alien trilogy with its modern, sharp-edged looks, ridged top and side-panels that like they've been sprayed with a symmetrical shower of bullets (in other words, very stylish), the "Blue Box" - as it has been nicknamed by Computer City's customers - comes with Red Hat Linux

"The base specification is by no means the only hardware

To complement these systems, Eyetech are also offering an EZDev-A1200 integration pack, and can also provide a complete, ready-to-run integrated A1200 EZTower TransAm system if you would like. The Amiga SDK is sold separately (and at a discount when buying with a development system), whilst a full "deluxe" version of SuSe Linux along with printed documentation and extra software is available for £29.95. Eyetech will be happy to give you more details if you give them a call.

Or go Dutch?

Meanwhile, over in the Netherlands, Computer City are offering a stylish blue solution based on an AOpen motherboard with 128MB of RAM, a Soundblaster Live 1024 sound card, dual-head Matrox G400, 15GB hard drive, 10/100Mbit Ethernet and a 52x CD-ROM.

Utilising a slightly faster 533MHz CPU (all other systems we've looked at here run at 500MHz) and looking like

6.1 on CD (also pre-installed) and Amiga's SDK is included in the price tag, although it isn't officially recognised by Amiga and so doesn't include the level of support that serious developers may require.

However, for those who are looking for an official solution, Computer City are also offering an d'Amiga box (supplied by KDH Datentechnik) based on a Gigabyte Super Socket 7 motherboard. The graphics card only has half the memory of the one in the Blue Box (16MB) and the hard drive is smaller (10GB), mirroring the smaller price tag, but if you're after an officially supported solution, you can't go far wrong.

Not quite right?

Of course, even with the range of specifications available, there may not be an ideal solution for everyone. If you plan on using the machine for other purposes, particularly if you want to install more than one OS on it, for example, you'll probably want a larger

Comparison table

	Power DevBox	Eyetech Entry Level	Eyetech Utility Developer
MOTHERBOARD	Super Socket 7 100MHz ATX	Integrated	Gigabyte Super Socket 7
PROCESSOR	AMD K6-2 500MHz	AMD K6-2 500MHz	AMD K6-2 500MHz
MEMORY	64MB	64MB	128MB
SOUND	Soundblaster 128bit	onboard	Crystal CS4281 PCI
GRAPHICS	Matrox G400 dual-head 32MB	onboard (8MB AGP)	ATI Rage (or similar)
HARD DRIVE	20.4GB	8.4GB	17.2GB
CDROM	48x	40x	40x
MODEM	56.6k internal PCI	onboard (56.6k)	No
NETWORK	10/100Mbit RJ45	onboard (10/100Mbit)	10/100Mbit PCI
LINUX	RedHat 6.1 pre-installed	SuSe 6.4	SuSe 6.4
AMIGA SDK	Add £79.95	Add £69.95	Add £69.95
OFFICIAL AMIGA SUPPORT	No	Yes	Yes
PRICE	£699.95	£429.95 †	£599.95 †
NOTES	Available in a range of five colours with matching Logitech keyboard and wheel-mouse. Case openable without tools.		

hard drive than the one specified in Amiga's official spec. Many developers will feel that there's just not enough memory - not a problem. In most cases, you could just ask the dealer about upgrades and they will be happy to accommodate you, but suppose you want something quite different?

that will run the Amiga SDK..."

The base specification is by no means the only hardware that will run the Amiga SDK, and there's no reason you shouldn't get an all together different x86 machine, or run it on hardware you already own. The basic requirement is that the hardware should be able to run Red Hat Linux, and indeed the SDK has been installed on all sorts of differently specified machines.

Some people might decide they want a more powerful machine. They might be developers doing a lot of graphics work who want a more powerful workstation, or they might be a gamer who wants their machine to dual boot into Windows so they can play games. In either case, a more powerful specification should be looked at. Currently the AMD Athlon series reigns supreme, performing slightly better than the Pentium III at a lower cost. Look for something around the 800MHz mark for the current price/performance sweet spot, and preferably pick a motherboard with the VIA chipset. With the Pentium 4 announced, the next few months may see

some attractive pricing on Pentium 3 chips too, so keep your eyes peeled.

If you want better sound, that's no problem; The Soundblaster range is supported. The specified SB-16 is about the most basic of the range, although a very adequate card for most purposes. Graphics is a slightly more complex area. You might want to get an nVidia GeForce 2 for the best current 3D performance, but the Matrox card is in there for a reason, and presumably people will be swapping their cards for the next generation Matrox cards when they arrive, which should be competitive with the GeForce.

Alternatively, you may well already have a PC. The specs call for a 500MHz AMD K6-2, but the SDK doesn't need 500MHz to run (Tao Group are said to use 166MHz machines because they're fast enough for their OS). If you've got an older, slower machine available, then you shouldn't have a problem (within reason). You may want to upgrade certain elements to get closer to the current spec; check the documents for your motherboard to find out whether it will take faster CPUs, and make sure you have enough HD space and RAM.

As direct support for multimedia hardware will be necessarily limited at first, it will rapidly become important to use the graphics and sound hardware that Amiga have chosen. You'll need a motherboard with AGP to use the Matrox graphics card, but if you have such a thing you could install one for better compatibility.

DS/AK **A**

¹ Prices quoted are for d'Amiga systems. EZTower TransAm systems are separately priced. Call Eyetech or see their ad this issue for details.

² Upgrade to dual-head available for £35

Eyetech Multimedia Level 1	Eyetech Multimedia Level 2	Computer City Blue Box	Computer City d'Amiga
Gigabyte Super Socket 7	Gigabyte Super Socket 7	AOpen	Gigabyte Super Socket 7
AMD K6-2 500MHz	AMD K6-2 500MHz	AMD K6-2 500MHz	AMD K6-2 500MHz
128MB	128MB	128MB	128MB
Soundblaster Live 1024	Soundblaster Platinum	Soundblaster Live 1024	Soundblaster 16
Matrox G400 single-head 32MB ²	Matrox G400 dual-head 32MB	Matrox G400 dual-head 32MB	Matrox G400 dual-head 16MB
17.2GB	17.2GB	15GB	10GB
48x	48x	52x	48x
No	56.6k internal	No	No
10/100Mbit PCI	10/100Mbit PCI	10/100Mbit	10/100Mbit
SuSe 6.4	SuSe 6.4	RedHat 6.1 CD	RedHat 6.1 pre-installed
Add £69.95	Add £69.95	Yes	Yes
Yes	Yes	No	Yes
£749.95 ¹	£1179.95 ¹	fl 2499 (approx £686)	fl 2399 (approx £658)
	CD Re-writer also included.	Now also available in green and grey varieties.	Via KDH Datentechnik. Exact spec. unconfirmed at time of going to press. Ring for latest information.

Take *Control!*

Banish your pile of remote controls to Silicon Heaven. Do it all with your Amiga!

Many moons ago, Amiga owners were introduced to the wonderful world of infra-red (IR) control courtesy of InfraRexx and the CU Amiga Airlink hardware DIY project. Today, Eyetech produce their own version of the infra-red

controller/receiver called the EZLink, which will allow you to control any infra-red device from your Amiga, and/or your Amiga with a remote control.

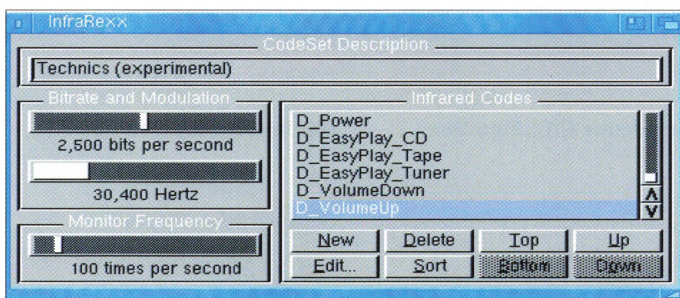
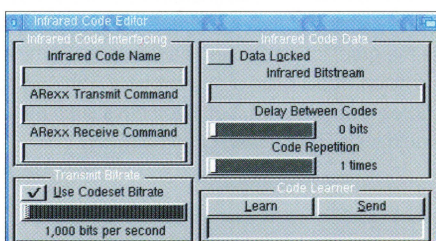
The EZLink is a small beige unit about the size of a matchbox, which connects via a ribbon cable to your Amiga's joystick port. The software, InfraRexx, installs painlessly to your hard drive via a standard installer script. It comes in two parts - an Editor and a Daemon. The Editor allows you to teach your Amiga

various infra-red commands, while the Daemon is a commodity which runs in the background of Workbench and can send IR signals in response to ARexx commands or monitor the EZLink to execute commands on your Amiga in response to incoming infra-red signals.

information isn't printed on your remote, is it? A good job, then, that InfraRexx comes with codesets for twenty electronics manufacturers, covering most of the big names like Sony, Kenwood and Panasonic (there's even a codeset for the CDTV). Some codeset files are empty (containing just the information relating to bit-rate and modulation) whilst others already include plenty of pre-programmed commands - so you may find all of the hard work has been done.

If not, you'll need to teach InfraRexx yourself. If there isn't a codeset file containing the bitrate and modulation settings for your brand of remote, the only way to work it out is by trial and error. Set the bitrate to the lowest value, try to teach InfraRexx a command and if it doesn't work, up the bitrate a little and try again. It's tedious, but unfortunately, it's the only way. The good news is you only need to do it once.

"The good news is you only need to do it once."



Above: The InfraRexx software learns infra-red commands from your existing handsets.

Below: EZLink comes bundled with its own infra-red handset to control your Amiga.

Infra-red in-brief

Before you get started, however, it helps to understand a little about how infrared works. Individual IR codes are grouped into "sets" - remote controllers use different sets with unique bit rates and modulations to distinguish themselves from codesets used by other manufacturers. Bitrates can vary from 1,000 to 4,000bps (bits per second) in steps of one, whilst the modulation is typically one of the four values recognised by InfraRexx: 30,400, 34,200, 35,600 or 39,200Hz.

In order for InfraRexx to learn a set of commands, you need to know the bit-rate of your remote control. The trouble is, this

Learning to talk IR

Once you've found the correct bit-rate and modulation settings, it's time to get your teeth into InfraRexx and teach it all of the commands from your various remotes. Click 'New' in the main Editor window, and an "Unnamed" entry will be added to the list of commands. Click on 'Edit' and the Editor window will appear. Both windows can be left open, side by side, to make the whole process of learning multiple commands a lot quicker - the Editor window automatically updates when you select a different code or create a new one in the main window.

Click 'Learn' in the Editor window and InfraRexx starts to



monitor the EZLink. Press a button on your remote and, if successful, a bitstream (a sequence of 1's and 0's) will appear. The 'Monitor Frequency' in the main window can be set from 1 to 1,000 times per second - this is how often InfraRexx scans the hardware for an incoming signal, which affects the consistency and accuracy of the learned bit streams - so to start off with, it's best to learn the same command several times to see if the bitstream changes.

An unreliable monitor frequency typically manifests itself in wild changes between bitstreams when re-learning a command.

A setting of 100 times/second is a good starting point, but it will probably need tweaking.

Once you've taught InfraRexx a command, clicking on 'Send' will transmit it back through the EZLink, enabling you to check that it works as expected. It's a good idea to try sending a new command several times to make sure it works consistently. If it doesn't, re-learn it until it does.

When you're happy that a new command works as expected, you can lock the bitstream to avoid accidentally overwriting it later, and set the number of times the code should be sent by InfraRexx as well as the delay between them. This is useful for

simulating the holding down of a button on your remote, like the volume controls: Repeating the code two or three times will simulate tapping the button, whilst repeating it twenty times will increase or decrease the volume in larger steps.

A is for Automatic!

The true power of the EZLink lies with the InfraRexx Daemon and its ARexx interface. The Daemon can be run from your WBStartup drawer, with tooltypes describing the codeset to use for issuing and recognising IR signals.

Sending ARexx commands to the Daemon's ARexx port will cause it to transmit the corresponding infrared command (each is given a name in the Editor) via the EZLink. Thus, the ARexx command "Address INFRAREXX CD_PLAY" will start your CD player, or "Address INFRAREXX VOLUME_MUTE" will mute your amplifier. Using a menu utility like ToolsDaemon or a button-bar utility like Tool-Manager makes it easy to set up a button or Workbench menu item to mute your TV or stereo when the phone rings, for example.

Combine several commands into an ARexx script, however, and you start to see the potential of this unassuming piece of



"...it can make your Amiga go on-line and pick up your e-mail or turn to the next slide in a Scala presentation."

hardware: turning on your DVD player, selecting the right channel on your TV, dimming your lights and playing a movie all from a single mouse click, for example. Similarly, ARexx scripts can be assigned to each command InfraRexx knows, so when the Daemon (set to monitor the EZLink) recognises an incoming signal, it can make your Amiga go on-line and pick up your e-mail or turn to the next slide in a Scala presentation.

Basically, what ARexx does for automating software, infra-red does for hardware. Combine the two and you have an extremely powerful system.

David Stroud **A**

EZLink

SYSTEM: OS 2.04 or better and a free joystick port.

SUMMARY: The hardware's reliable, the software's reliable... it's what you want to do with it that counts.



Lights, controller, brighten!

Controlling lights via infrared has always been a rather complicated affair, involving replacing existing wall switches with expensive IR dimmer panels which come with their own remote controls, for example.

Now, however, a Brighton-based company has come up with the ideal solution for low-cost, hassle-free remote controlled lighting. LTP's infrared plug-in light dimmer (pictured) sits between a standard light bulb (up to 100W) and its bayonet socket. Setting it up only takes a few seconds: Turn your light(s) off, fit the device, hold down a button

on any remote control (one that isn't used much, like one of the four coloured fast-text buttons on your TV remote, for example) and turn the light back on.

An infrared sensor attached to a short white lead (which can be uncoiled to place it in the best position) receives the infrared signal, which the unit memorizes. The light alternately dims and brightens to show that the unit is working, and pressing the button on your remote once more stops it pulsing. Turn the light off, wait a few seconds, turn it back on again and your light is now remote controlled!

Tapping the button on your remote turns the light on or off, whilst holding the button down will increase or decrease its brightness.

This wonderful invention (selected by the Design Council for inclusion in its coveted Millennium Product range, no less) can be yours for just £19.95.

For more information, contact Light Touch Products Ltd. on +44 (0)1273 881920 or e-mail lasacw.gam@cwcom.net - not forgetting to tell them we sent you, of course.

Below: LTP's infrared light dimmer - simple, but wonderfully effective.





Spitfire 2

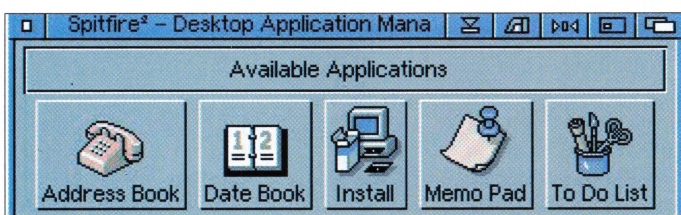
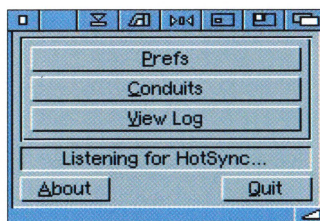
If you want a hand-held partner for your Amiga, Spitfire can put high quality connectivity into the Palm® of your hand.

Next to my Amiga, my Palm Vx electronic organiser is the single best consumer electronics purchase that I've ever made. In many ways, the Palm feels so "right" to me as an Amiga user precisely because of the significant ways in which it epitomises what has always distinguished the Amiga: an efficient, multitasking OS, small but effective applications that get the job done, and a loyal community of clever and prolific shareware authors who have surely stretched the little beast well beyond what its original designers dreamed of.

The bulging, dog-eared, sticky-note-festooned paper daytimer that I used to drag everywhere (and often leave behind by accident) is now a thing of the past. In a thin, tiny, anodised aluminium package that slides right into my shirt pocket, my Vx carries a searchable name and address database (1150 entries and growing) dozens of memos, a complete calendar and to-do list, an addictive role-playing

game, a Hebrew calendar program (!), expense and car mileage tracker programs, an e-mail client and several text editors for use with a Palm external keyboard (all of this with six of its eight megabytes of RAM still free!) I can even set audible alarms to remind me of tasks and appointments that I used to forget.

I am now a hero in my family again for sending birthday gifts on time and phoning on wedding anniversaries like clockwork! At the office, keeping my schedule up to date with the copy on my secretary's PC is a breeze; I just push the Hot Sync button on the Palm's cradle and in a minute everything is perfectly co-ordinated between my Palm and the schedule on her PC!



Pick up a Palm

I was largely persuaded to buy into the Palm platform rather than opting for a Psion PDA (although it is certainly also a great product) by the article in issue 5 of this very magazine (February 2000) which concluded that Amiga software support for the Palm platform was stronger than that for Psion. Well, the Palm situation has only improved since that article was written.

With the release of Ralph Torchia's brilliant Spitfire 2 (v1.2) Palm "desktop" for the Amiga, there is no reason for any Amiga user to hesitate purchasing a Palm. Indeed, you can enjoy virtually the complete Palm-to-desktop computing experience even if your only computer is an Amiga!

Mind you, Spitfire 2 isn't some sad, bug-ridden, CLI-only, "it-sort-of-works-almost-like-the-real-thing-too-bad-it's-no-longer-being-developed" Aminet orphan, but a full-featured, Amiga-to-Palm desktop with a good-looking MUI interface that's a joy to use. It even supports multiple users with multiple Palm devices!

Spitfire2 will run on any Amiga with an '020 CPU or better, 2MB of free RAM and a free serial port (Palm PDA's even ship with a

9-pin-to-25-pin serial adapter that's perfect for the Amiga's native port). It also requires MUI 3.8 or better and some assorted libraries and MUI custom classes (included with the archive).

Note that if some of Spitfire's GUI images don't appear when you load the program, you may need to update your ilbm.datatype and picture.datatype to a newer version (fortunately, these are included in the Spitfire 2 archive).

The program installs easily with the standard Installer. The first time you run the program, it will ask you to set some preferences (serial port and speed, mainly) and then execute a Hotsync. I must admit, seeing that familiar MUI, "busy" display while hotsyncing a Palm is oddly satisfying. That's it, you're up and running!

Four in one

As for Spitfire2 itself - any Palm desktop essentially serves four functions. First, it provides a mirror of your Palm device's To-Do lists, Calendar, Memos and Address Database on your desktop computer, enabling you to consult this information on your Amiga even if you don't have your Palm device handy.

Second, it permits you to enter information into these Palm applications from your Amiga's keyboard (much more quickly than inputting them by hand with

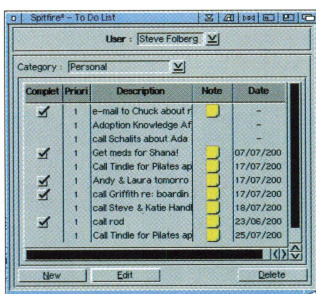
"...a full-featured, Amiga-to-Palm desktop with a good-looking MUI interface that's a joy to use."



Palm's "Graffiti" system). You then move the deletions, modifications or new entries made on your Amiga into your Palm device with just the push of the Hotsync button on your Palm's docking cradle.

Third, the Palm desktop includes a tool through which you can install new applications (shareware downloaded from the Internet, for example) onto the Palm device. Much of this downloadable material is in the

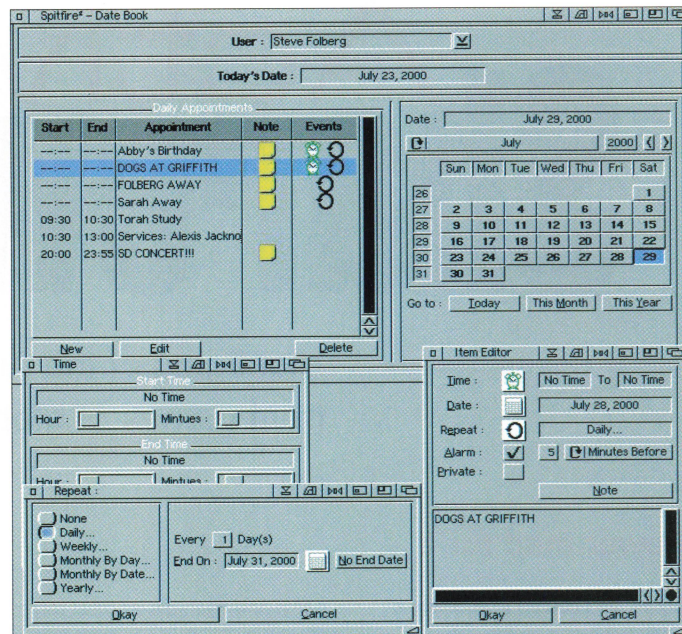
Pictures: This and the other screenshots scattered around these pages illustrate some of the features and options Spitfire makes available.



the desktop provides a safeguard against data loss should the PDA be physically damaged beyond use or should you be forced to perform a "hard reset," which erases all its data. What's more, Ralph has included in Spitfire2 a number of functional goodies (see boxout, below) that even Palm's own, "official" desktop doesn't offer!

Half and half

Spitfire 2 is broken into two separate yet integrated applications. HSM, the Hotsync



For most of the application conduits (Datebook, To Do List, Memo Pad and Addresses), you'd normally want to just synchronise the Palm device and

applications (there's already a search function in the Address Book, but it sometimes fails to return a result that it should find). The YAM e-mail conduit which is already being developed (currently in beta testing) will arguably make Spitfire 2 a truly complete Amiga-To-Palm solution, and although Spitfire 2 is easy to learn for anyone familiar with the Palm desktop concept, the amigaguide documentation could do with being fleshed out a little.

Spitfire 2 is a fabulous achievement. It has few flaws, and Ralph Torchia seems intent on updating the program. Especially considering the advanced functions which it offers above and beyond the "official" Palm desktops for the PC and Mac, it is a bargain at US\$20. Buy a Palm PDA, buy Spitfire, and be happy (and organised).

Steve Folberg **A**

"...it does what it is supposed to do quite beautifully."

form of zipped archives, for which there are Amiga unpacking programs available on Aminet (several of which we've included on this month's coverdisc along with the Spitfire demo).

Finally, by mirroring the contents of the Palm on your Amiga,

Manager, gives you access to the main Preferences window and the log files generated during each Hotsync. Additionally, the HSM's interface lets you configure the various conduits (transfer and synching preferences) for your Palm applications.

the Amiga, but Spitfire 2 allows you to force an the overwriting of either system or leave a specific application untouched.

The other half of Spitfire is the DAM, or Desktop Application Manager. After loading, it presents you with a nice little "button dock," from which you can call up the major Palm Desktop applications with the click of a mouse (these applications can also be launched from pull-down menus within the Hotsync Manager). One nice feature of the Memo Pad desktop application is the ability to import and export ASCII files, so you can take memos back and forth from the Palm to the Amiga.

Spitfire's own To-Do list

Spitfire 2 does what it is supposed to do quite beautifully. There are, however, some features that I'd like to see implemented:

A detailed, week-at-a-glance view in the Datebook application would come in handy, as would a text string search function for the Memo Pad, Date Book and To Do

Three Advanced Spitfire 2 Features

- 1** Ralph has incorporated a "System Conduit" into Spitfire. Every time you Hotsync, Spitfire not only sync's and backs up your various application databases, but it creates (the first time you Hotsync) or synchronises (on subsequent occasions) a full mirror of **everything** in Palm RAM, including third party apps you've installed, along with their databases. In the event of catastrophic data loss (or a hard reset on the Palm), you have a total backup of what was on your Palm saved on your Amiga, ready to be restored. Even Palm's own desktop doesn't do this! You need to buy a separate \$20 application called "Backup Buddy" to get this functionality on the PC.
- 2** Registered Spitfire users get a Date-and-Time conduit that will sync your Amiga's clock to your Palm, or vice versa. I love this feature, since my Blizzard 1260's clock runs fast.
- 3** Ralph is currently beta-testing ...drumroll...
...a YAM-to-Palm-Mail e-mail conduit. Wowie!! :~))

Spitfire 2

SYSTEM: MUI, '020+ CPU, 2MB RAM.

SUMMARY: At last, Amiga users without access to a Mac or PC can enjoy full Palm functionality.



Active Shareware

Highlights of the Amiga shareware scene, from games of global domination to borrowings from Unix.

Power mad for it

Go on, you can admit it: There's a little bit of megalomania in the best of us. If you want a safe outlet for any tyrannical tendencies you may be harbouring, then grab yourself a copy of FreeCiv (www.freeciv.org).

FreeCiv is an open-source, cross-platform strategy game inspired by Sid Meier's classic Civilization series. The goal is a simple one: to advance your tribe to be the greatest civilisation in the world. Ports exist for all major operating systems - and minor ones like the Amiga - and you can compete for world domination against both artificially intelligent computer-generated opponents and your fellow man. The latter is made possible via a local area network or the Internet.

The FreeCiv package is implemented as a client and server pair. The server hosts a

game and each player must run a client, which logs in to the server. The FreeCiv web site hosts a meta-server where you can join in games and play against geographically diverse opponents. If you simply want to play against the computer (which is a good way to learn the game) you can run the server and client on the same box.

The Amiga version of FreeCiv is a fully functional native port, built with MUI. Development is



“The game itself is derived from Civ II, but with some tweaks for better network play.”

Above: MUI does us proud with one of the best FreeCiv clients available.

very active and keeps up with latest releases for other machines. The Amiga client compares favourably with those for Unix platforms and is in many ways more comfortable to use.

The game itself is derived from Civ II, but with some tweaks for better network play. If you've played any of the original series, you will find this instantly familiar. Although the game is complex,

the learning curve is shallow enough for newcomers to become quickly immersed. What's more, the FreeCiv web site has some good tutorials to point you in the right direction.

Greener Post-Its

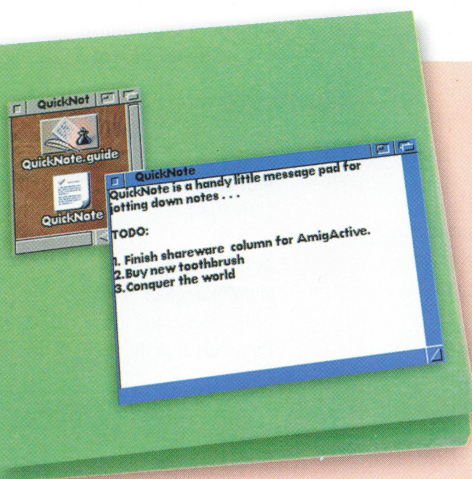
If you're the sort of person who cannot remember anything unless it's written down, and you want an environmentally-friendly alternative to those small, yellow bits of paper which adorn everybody's monitors these days,

then have a look at QuickNote ([Aminet:text/edit/QuickNote.lha](http://Aminet.net/text/edit/QuickNote.lha)).

A mini text editor designed for jotting down, well, quick notes, QuickNote has basic editing controls, but you can also select text with the mouse and cut and paste to and from the system clipboard. The neat thing is that when you close the program, it remembers the text you entered

and the window position for the next time you start the program.

To be truly useful, it would be nice to see QuickNote implemented as a commodity - or at least have the ability to iconify the window - and be able to handle more than one file at a time. The danger is, though, that adding too many features would detract from its original purpose.



The device / file duality

One particularly powerful feature in Unix platforms is the way that you can access devices with a file-based interface. The AmigaOS idiom of blurring devices with volumes is useful too, but there are times when the Unix method provides the most straightforward solution to a problem.

If you also find this to be true, then Dev-Handler will come in useful ([Aminet:util/sys/Dev-Handler.lha](http://Aminet.util/sys/Dev-Handler.lha)). It is an AmigaDOS device that provides raw, stream-based access to AmigaDOS volumes and exec devices.

That is, you can treat devices as files, just as would on Unix.

Once the dev-handler is mounted, you can specify a stream to read and write to or from a particular volume via a filepath of the form 'DEV:volume' and a particular exec device via a filepath of the form 'DEV:device/unit/flags/bufmemtype/mask/maxtransfer'. In the latter case, the components of such a path correspond to the fields you would specify in a mount list.

So for example, "copy DEV:df0 to floppy.adf" would create an

ADF image of the contents, block-by-block, of the floppy disk in drive 0; whilst "type DEV:scsi.device/0 hex" would give you a hex listing of the blocks on your first hard drive, starting at the RDB. In most cases, you don't have to specify all the options: dev-handler is smart enough to work them out.

Dev-handler also understands both the TD64 and the official NSD methods of handling devices with a greater-than-32-bit address range, can work around various

well-known device driver bugs, supports simultaneous reading and writing to a device and searching within a stream.

This is an ingenious piece of programming, ideal for making backup images of floppies or Zip disks or even the RDB from a hard drive. Beginners should be aware, though, that dev-handler can do a lot of damage when used carelessly. Take care!

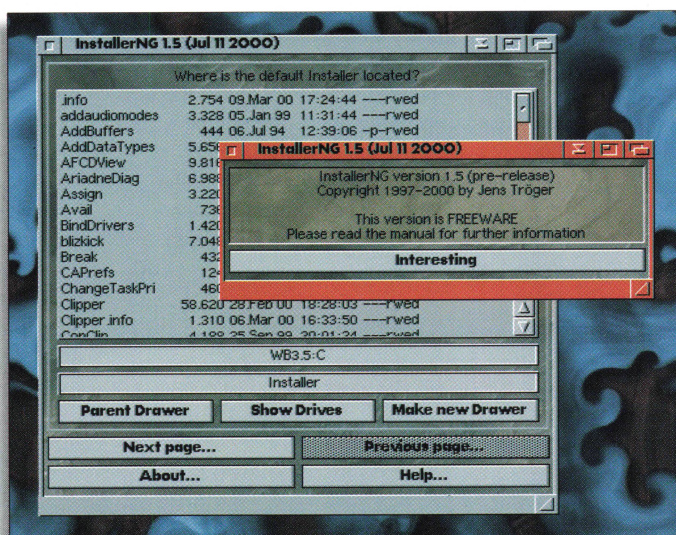
Getting it on

One of the many parts of the Amiga's Operating System that has been allowed to stagnate in recent years is the Installer. The original concept was a sound one: to provide developers with a means of ensuring that their software is installed correctly (with scripts written in a LISP-based language) and to give users a consistent and familiar interface for getting new software set up on their machines.

Unfortunately, the implementation was not as good as it might have been: The engine which parses install scripts is slow, is lax when it comes to enforcing the syntax of installer scripts, and the interface that users are presented with is both awkward and ugly.

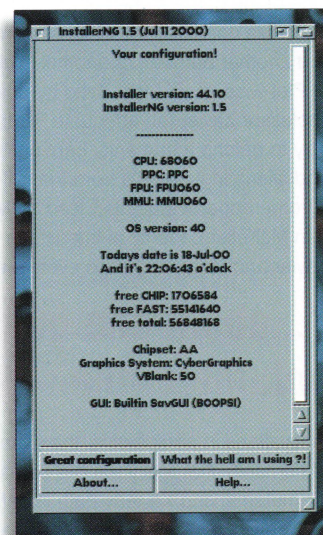
InstallerNG (<http://installerng.amiga-center.de>) is a long-established project, with the aim of producing an Installer clone which is compatible with the original but corrects some of the defects. It seems to be succeeding: InstallerNG is smaller, faster and safer than the original.

The language has been extended with object functionality and the ability to step back through an installation procedure. It is more rigorous about syntax, but there's also a "LazyCompile"



Above: You get the option of MUI, but InstallerNG's interface is just too similar to the original.

Above right: Some of the new functions include querying for system resources.



option to ignore errors that the original Installer wouldn't notice. As a result, InstallerNG is now, arguably, a viable alternative to the Amiga's native Installer.

From the user's point of view, however, InstallerNG looks much the same. You can choose between a MUI or BOOPSI interface and the Installer window is now sizeable, but in terms of functionality it is identical to the original. This has the advantage of familiarity, but keyboard shortcuts are still missing!

One area where InstallerNG shines is safety. You are presented with a range of options to make

sure that install scripts can't do nasty things to your system. For example, you can force InstallerNG to always ask for confirmation before installing a file, you can make it keep its hands off your startup sequence and tell it not to overwrite or delete files in any system directory. Other useful features include the tagging of all files it

installs with the name of the package (by attaching a file comment) and the automatic creation of uninstall scripts.

InstallerNG is definitely progressing, but more work is needed - especially on the user interface. As it stands, however, it's still a big improvement on the original.

Richard Drummond **A**

"As a result, InstallerNG is now, arguably, a viable alternative to the Amiga's native Installer."

Active Media

A book about Rogue phone bills, a web site whipping up a Storm of complaint, proof that it isn't just a Phoenix that comes from the flames, and a movie about a bunch of mutants.

X-Men the Movie

- Movie
- UK Release: August 18
- 20th Century Fox

One of the cornerstones of the Marvel Comics franchise comes to the silver screen. Is it another Batman, or another Dick Tracy?

Plot-wise, the X-Men - lead by philanthropic Professor Xavier (an adequate Patrick Stewart) - try to defend a humanity bent on excluding and alienating mutants from the evil "Brotherhood of Mutants," lead by Magneto (Ian McKellen). Plenty of interaction between Xavier and Magneto keeps everyone's

"...about one quarter the grossly distorted volume of their comic book counterparts."

motivations in perspective: there are elements of humanity that really are out to make life hell for mutants, and Xavier's path is definitely the more difficult, albeit more noble one.

In most cases, the movie does a good job easing newcomers into the characters and their basic traits, with the notable exception of a very forced and largely uninspired rivalry between Wolverine (Hugh Jackman) and Cyclops (James Marsden).

Notable among Magneto's largely one-dimensional bad guy crew is American model Rebecca Romijn-Stamos as Mystique, a villainess of exquisite camouflage and few speaking lines. Her stunt double gets nearly all of the film's best action sequences as she leaps around, climbs pipes and walls, and kicks almost every other character in the face.

At times, the movie resembles "Wolverine and Rogue: A Love Story" more than "X-Men the Movie," but there's enough heroism and action to keep things on track. However, for an action movie about some of the most powerful superheroes ever devised, our protagonists (with the exception of Wolverine) fight remarkably poorly. In one scene, Toad -

one of the most bottom-tier villains you could possibly imagine - nearly single-handedly defeats the entire X-Men crew.

Some devoted fans of the pulp X-Men may be a bit disappointed that Jean Grey's breasts (portrayed, along with the rest of her, by Goldeneye's Famke Janssen) are about one quarter the grossly distorted volume of their comic book counterparts.

Really, the biggest surprise of this movie is that it's actually pretty good, and not the horribly overblown Hollywood disaster it could have been. Since both the end of the movie and the box office numbers scream "sequel", we'll undoubtedly see if they can keep it up.

JC

Amiga Realm

- Web Site
- www.amigarealm.com

There are plenty of web sites containing Amiga resources, and some would argue that we don't need any more. Amiga Realm is one I hadn't seen before, and first impressions are good. It isn't a news site - it's more of an information resource that also acts as a portal to other Amiga sites for information it doesn't hold locally.

Its clean layout makes it easy to navigate and find what you need - and if you can't find what you want from the headings on each page, there is a search engine to help. It's a shame all the body text has been set in a smaller than standard font (small fonts are fine



for some things, but the main text of the page should be in the standard size 3). Those of us that have gone to the trouble to configure our browser to present normal text in the most comfortable size don't want to have to squint when entire pages are rendered smaller (or scroll around because someone's used a large font for the body). Worth a visit, though. **NB**

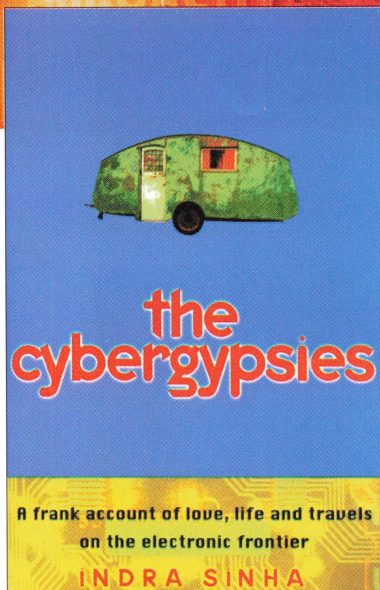
Web Watchdog

- Web Site
- <http://hop.to/awd>

There is now a site dedicated to those who want to complain about Amiga companies. The Amiga Watchdog site provides a means for those who feel they have received a raw deal to spread their story. I have reservations about such a site, "bad news travels, good news stays at home" as they say. The Amiga Watchdog does have a page for "appraisals" as well as complaints, which gives people an opportunity to praise good companies, but the emphasis does come across as rather negative.

The basic idea of a site for the "Amiga consumer" is good, but perhaps the creator of the watchdog site should rethink their approach (and the HTML needs serious attention - of the three Amiga browsers, only Voyager could display it correctly, implying that no testing was done in the other two).

You may get the idea I don't like this site, and in some ways, I don't. Don't get me wrong - it's a decent idea, but the implementation still needs a bit of work. **NB**



The Cybergypsies

- Paperback, 405pp
- Written by Indra Singh
- Published by Scribner
- £9.99
- ISBN: 0684819295

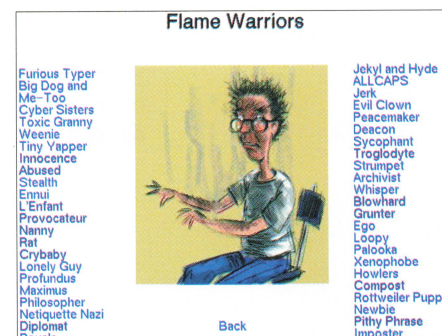
Those of you who were introduced to the on-line world through the World Wide Web don't know what you missed. Before the web, a "bulletin board" was some guy's computer you could dial into, and e-mail was passed from bulletin board to bulletin board across the Fidonet. It was a time when information on the "Internet" seemed to have a geographical basis, and those travelling the networks felt like they were drawing a new map, not reading a very fat book.

Probably everyone with literary pretensions who was involved with that scene has thought that there's a book in there. Fortunately, one proto-surfer has figured out how on earth you write about it in an interesting way, and

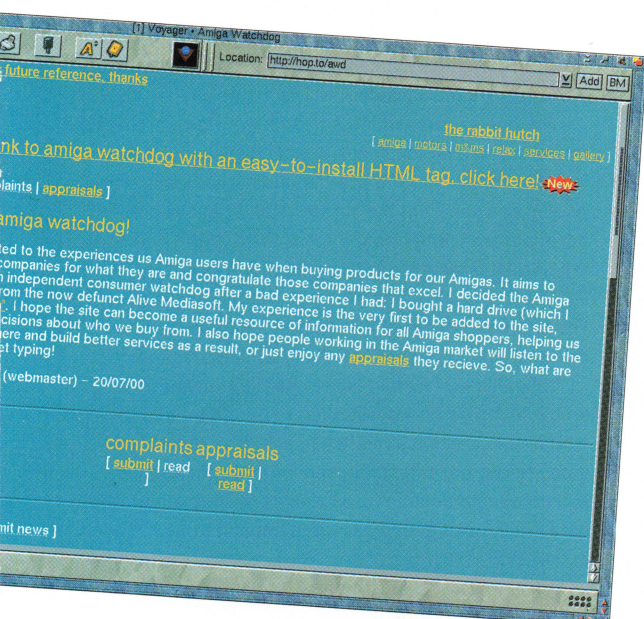
The book's strongest suit is the elegant sub-text on the nature of personal identity. There's no rigid temporal narrative (indeed, the narrative doesn't always stay in the real world). Singh blurs the reader's sense of "RL" and "on-line" to provoke a debate on the division of identity that an on-line avatar can create.

I have to admit to a certain bias towards this book. Although I was a Compunetter and a Mudder (player of the on-line game MUD) while the author was a Micronetter and a Shadist (player of the on-line game Shades), the territory is familiar enough that it is like reading a novel set in my home town. It's strange to think that some of the characters in this book are people I have killed or been killed by in an on-line text adventure.

However, even if you don't share that experience, this is a book whose 400 pages are quickly devoured. The writing is absorbing, the menagerie of characters compelling, and the whole works superbly as a thought-provoking travelogue through the electronic Wild West of frontier-town early Internet. **AK**



“...a thought-provoking travelogue through the electronic Wild West...”



even more fortunately, he turns out to be a thoroughly excellent writer.

The Cybergypsies is autobiographical, but is as much about fiction as fact. Recounting his dual life as an on-line personality and as an RL (MUD speak for "Real Life") human being with a family and a job as an award-winning advertising copywriter which gets him involved with Amnesty International, Anita Roddick and Jeffrey Archer, Singh explores both the impact of this dual life in terms of the on-line obsession that nearly cost him his marriage and the fascinating anthropology of the denizens of the new on-line world.

Flame on!

- Web Site
- www.winternat.com/~mikelr/flame1.html

Get a group of people together in a local drinking establishment and someone will turn a discussion into an argument. Do the same on-line and it gets far more heated (and occasionally more interesting).

Anyone who's taken part in a lengthy IRC session or leafed through the posts on the c.s.a.misc newsgroup will know that flame wars are an integral part of Internet discussions, so it was inevitable that someone would attempt to categorise the various types of "Flame Warrior" - and on this site, you get pictures instead of descriptions. Only one question remains... which are you? **NB A**

Pagestream Tutorial

Part 1

We take a look at some of the things the Pagestream manual won't tell you in our tutorial for the desktop publisher.

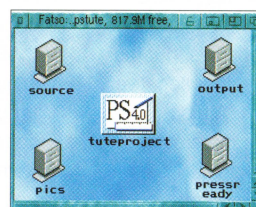
A tutorial on Pagestream has been something we have often been asked to provide. The problem with tutorials of this topic is that they tend to either seek for wide appeal by being so basic anyone could figure it out for themselves after an hour or so playing around with the GUI, or become so esoteric and specific that they just aren't of much interest to most people. Instead, we decided to look at the aspects of DTP that you won't necessarily figure out by playing with the GUI.

In this first part we're going to start off with the preparatory ground that you need to lay to make your Pagestream project go as smoothly as possible. We will then move on in the next part to cover the technical issues involved in bringing a Pagestream document to press, working with printers, and ensuring the best quality results.

First steps

The steps you should take before you actually start laying out your document are of course dependent on what that document is, but all documents require a certain degree of groundwork to be done. Your document consists of words and probably pictures - these should be prepared in advance and put in a place you can get at them easily. It's a good idea to create a new drawer for any major project, with separate places

for source material, output files and so on. In the case of a small project you don't really need to do this, but where your project consists of many elements, this is important.



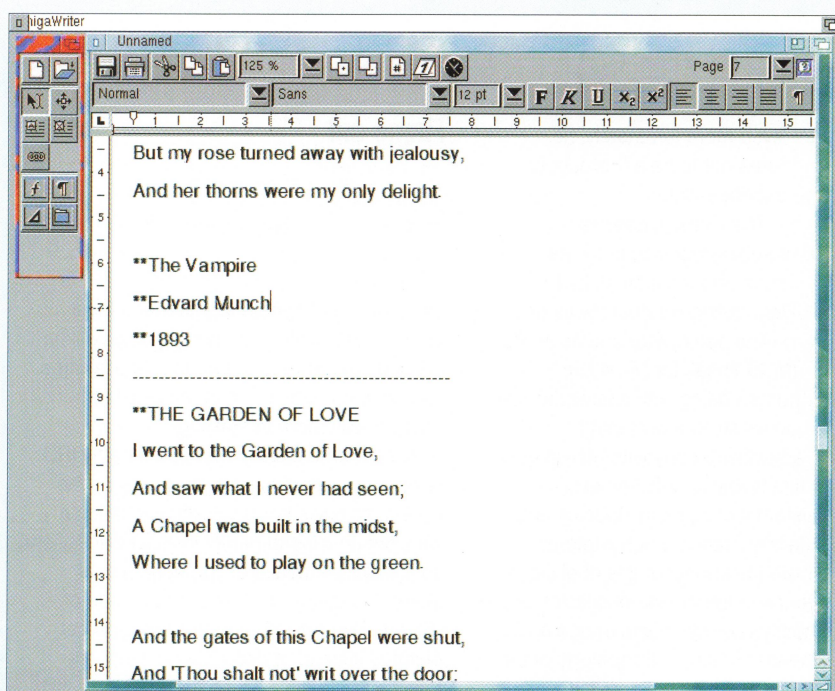
Preparing your text

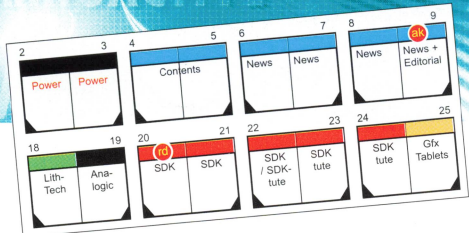
You will in all likelihood want to prepare your text in a word processor before putting it into Pagestream. Pagestream's not a bad little word processor in its own right, and if you are just writing a few details in a flyer or putting together a CV, you could type directly into the page. For longer documents however, a proper word processor (one is included) will be far quicker and easier.

Whether you are writing a text for your own project or for someone else to lay out, it makes sense to clearly indicate changes to the appearance of the document. As you can see from the screen shot, I have separated headlines and notes from the main text of the poems in the tutorial project by flagging them with a couple of asterisks, and used dashes to indicate page breaks. These are easy to spot in a long block of text, so the designer can jump to points that require attention.

While this project text is very straightforward, an article in *Amiga Active* will often require a lot more attention to the text. I might use asterisks to indicate crossheads, boxouts, monospaced fonts for listings, picture use and captions, as well as making a few short notes to the designer which aren't meant to be included in the text:

****design note:** Like this one.





The project we'll put together for this tutorial is a short pamphlet of selected poems from William Blake's Songs of Experience, illustrated with artworks that match the poems in some way. You might want to produce something like this as a study aid, or just for fun; the purpose for us is that it illustrates an interesting set of design issues.

The first order of the day is to figure out how your creation will be put together. If you are going to create a multiple page document, you will need to know what goes on each page. This is where the flatplan comes in.

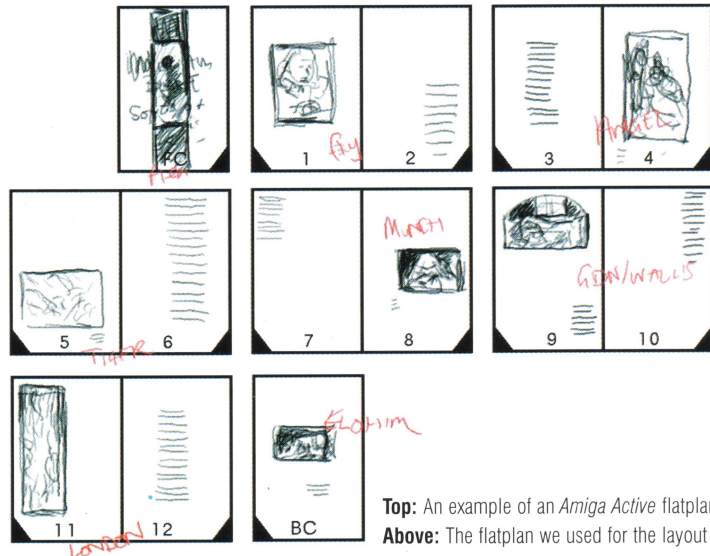
“...all documents require a certain degree of groundwork to be done.”

The Flatplan

A flatplan is a diagram of the page layout of your document. It should show the breakdown of left and right pages, and show which pages make up spreads. You use this to determine the placement of content within the pages of the document. The detail required will be somewhat determined by what it is you are laying out. For a magazine like *Amiga Active*, we need information such as which article is on which page, who is writing it and what section it belongs to so that the layout artist knows what style or format to use. You can see this information in the sample of one of

the flatplans actually used to produce an issue (this one, in fact) of *Amiga Active* - pictured above.

For the project we're putting together there aren't sections with predefined styles. The pages will have a lot of space in them, and will have varied designs. Because of this we have gone for a more detailed flatplan, with an actual thumbnail sketch of the layout we want to use. While we won't necessarily stick exactly to this layout, by defining the flatplan this way we can see an overview of the document to make sure it all fits together, and can see page by page what it is we need to be doing.

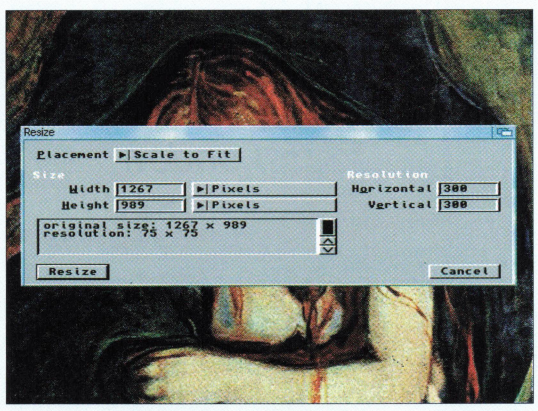


Top: An example of an *Amiga Active* flatplan.
Above: The flatplan we used for the layout of the tutorial project.

Preparing pictures

A lot of people will have tried BME - the bitmap editor that comes with Pagestream - and quickly dismissed it as a very basic product for people who don't have a proper graphics program.

This is not entirely accurate. BME is limited in what it can do, but the features it has are ones important to the desktop publisher. It is, for example, very useful for changing the resolution of pictures - and we're not talking about simply re-sizing them.



Many picture file formats can contain information in the headers that defines the resolution (or dpi) the picture should be viewed at, and this tells the computer how big in inches that picture is meant to be. For example, a 600 pixel wide picture which is stored at a resolution of 300 dpi should be two inches across. When you open it in Pagestream, it will default to this size.

The problem is that graphic files intended for computer use tend to default to 72 dpi (the resolution of monitors). Thus the 600 pixel wide picture would appear to Pagestream to be 8.3 inches across. This is much too large and would appear blocky when printed out. Unfortunately, Amiga programs aren't too good at allowing you to change the default DPI setting in picture files, but BME will let you do exactly that.

BME is also suitable for some of the processing needs of a DTP package. If the picture is dark on the screen, it will tend to look darker on the page due to ink muddiness, so it might make sense to lighten the image a little. Faint details can get lost if your print quality isn't the highest, so a little contrast manipulation might be in order. Finally you should consider saving your pictures out as TIFF files; although Pagestream handles more convenient file formats such as JPEGs, TIFFs ensure the best results.

Another thing BME can do that you don't often see in Amiga software is to alter colourspace. Printers make up colours with cyan, magenta, yellow and black (CMYK) while computers use red, green and blue (RGB). While Pagestream will convert pictures on the fly, BME can let you convert them previously, which allows you to see (and compensate for) the changes that a different colourspace will make to the picture.

As pictures are an important part of this project, the next order of business is to sort out picture usage. The plan is to have an image on both front and rear covers and six spreads (pairs of pages) internally, each with one poem and one picture. The eight pictures used will be fairly large. While you can include the pictures in the Pagestream document, when you have a few large images it is better to leave them external to the document (you can specify this when you are placing a graphic). When a picture is left as external, a screen resolution version of it is brought into the document. When Pagestream outputs the document either as a PostScript file or to a printer, it will use the external image rather than the low resolution one.

The good and bad

This approach has a number of advantages. It keeps file size manageable and memory usage low, while screen updates are faster. It means that you can edit or alter a picture without having to replace it in the document, and it means that if you don't have good enough scanning hardware for your purposes, you can supply your files with the original artwork for a printer to scan in. They then merely have to drop their files in the place your low quality scans were, and the print out will use the new high quality ones. The disadvantage is obvious - what if you move your picture, and Pagestream can no longer find it? For this reason it is a good idea to have a separate folder for your pictures.

When you source images for your work, it is important to keep in mind the size of image you are going to require. Whether your output is for a printer or a screen (for a PDF document for example), it will be created at a set resolution per unit measurement of the document.

"It keeps file size manageable and memory usage low, while screen updates are faster."

For example, if you are displaying a six inch wide document in a 432 pixel wide window, there will be 72 dots per inch, or 72dpi. In contrast, a printer might work at 300dpi. Thus, to avoid pixellation, an image that is meant to take up half the width of the page need only be 216 pixels across on a screen, but would have to be 900 pixels when printed. To fill an A4 page at 300dpi requires an image roughly 2500 x 3500 pixels in size.

You don't have to use a picture at the maximum resolution of the output device. When you place a picture in a document, you are setting its location in physical measurements, not in lines or pixels. The world will not end if you are outputting a 900 pixel wide picture at 300 dpi and it's four inches across instead of three. However, you should aim for as close to the print resolution as possible to get the best image quality. We will discuss this further in the next part of the tutorial.

Designing the page

Next, you'll need to design your layout. Here, we have picked a spread at random, started a document, placed a picture, and imported the text into a text box (fig.1).

Now we can start playing with style variations to try to get the look we are after. Because of the limited resolution of a monitor, you will often have to zoom in to an image to get a clear view of the changes you are making (fig.2). However, there's an important variable you should set - screen DPI. You can enter X and Y dpi settings in the screenmode preferences selector. To determine the appropriate value, measure the size of your screen and divide by the number of pixels by the value in inches. For example, a 14" monitor will provide roughly 11.1" x 8.2" on a 800x600 screen, or a DPI of 72 in both X and Y co-ordinates. VGA screenmodes use square pixels, but PAL and NTSC screens do not.

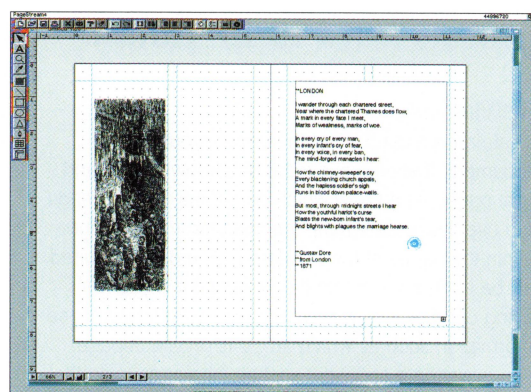


Fig.1

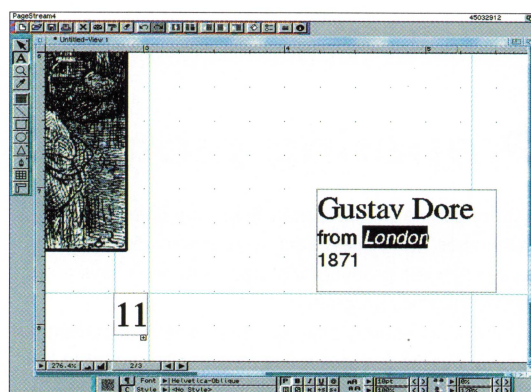


Fig.2



Fig.3

Thus, if you have the same X and Y dpi on a PAL or NTSC mode, the on-screen measurements will not match printed measurements and you will not be able to accurately assess your layout.

Setting up your document

The next step is to use your basic design to make it as easy as possible to design the full document. One of the most useful features for this is the style sheet, which allows you to create a palette of pre-defined text styles

that can be applied to blocks of text or paragraphs with a single click.

Having achieved the text layout you want it, open the styles palette window and add a style. Name it something appropriate - for this project we have styles defined for the poem title and the body of the poem (called, obviously, "Title" and "Body") and three more styles for the three lines of attribution text for the pictures ("Artist," "Pictitle" and "Date"). In the style preferences panel, replicate the settings you have made for the text

"...use your basic design to make it as easy as possible to design the full document."

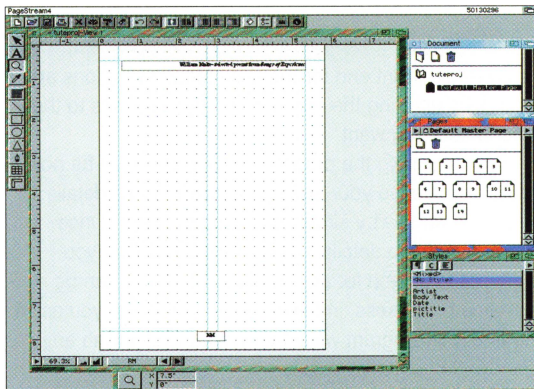


Fig.4

in your reference design (fig.3). When you are done, save them so they can be loaded into your main document.

Starting from the grid

The next thing to do is set up your document proper. While some things (such as this magazine) have rigid underlying structures (or "grids"), this project is so freeform that we have decided to stick to a basic two-column grid. Selecting the Default Master Page, we add the elements we want to appear on each page - a page number for all pages, and a title strap at the top of right-facing pages (fig.4). In most cases you would want to include basic text boxes, but as we are using a free-form layout, we don't need any rigidly placed text boxes. From the Layout/Document setup menu option, you can add pages to the document, telling it to use the Default Master Page as a guide.

Now we can start laying things out, and why not start at the beginning? Page one is the front cover, so on goes the cover picture and the title. Unfortunately, we also get the page number and the title strap from the default page. It is often the case that you want some pages to be different from the others. In this case, the simple option is to select the Layout/Page Setup menu option, and select the value "Do Not Show" for 'Master Page / Show Objects' (fig.5).

Note that you are not limited to one Master Page, so if you want several pages to follow a different style, you can set up a secondary master page from the document palette, by dragging the blank page icon onto the open book project icon.

Now we can start dropping contents into the pages. In fig.6 you can see how this works. The picture has been placed as normal, then moved and scaled to where we want it. When you are moving bits of text into pages like this, you can open a text box on the pasteboard outside the page and import the text into that. Whichever page you then view, the text box will remain visible on the pasteboard, and you can copy and paste text from it to the appropriate boxes on the page.

When this is done, all you have to do is select each text element, then click on the appropriate style in the style palette, and the appearance of the text will be matched. As you can see, once the groundwork has been laid out carefully in advance, the actual assembly of the document is an absolute breeze.

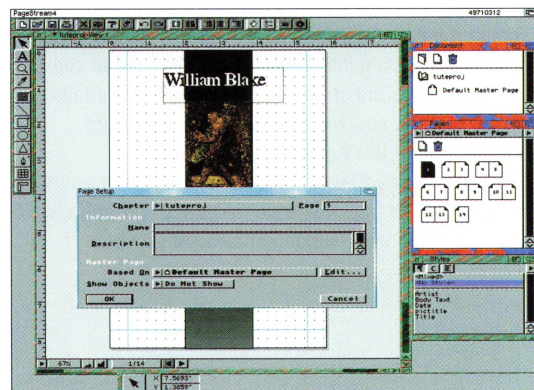


Fig.5

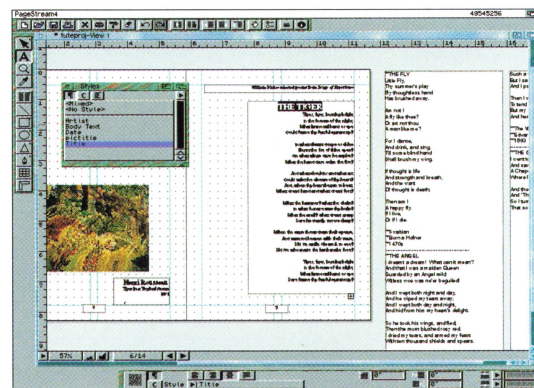
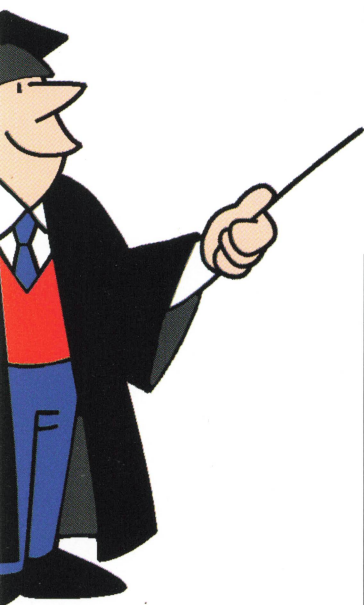


Fig.6

Programming in C Part 3



In this month's instalment we see the program in its finished form, and discuss some improvements.

Over the last two months we have covered some very basic building blocks for programming in C, and have outlined some of the simpler components that go to make up our address book. This month we see how these blocks have been put together to construct the finished program we set out to write.

The finished article

Although I call it finished, it really is a far cry from that; something most programmers will probably think about their own creations. There are many improvements and features that we could implement, but for our purposes it's enough - we have a working program that does just what we wanted it to do. You can find the fully compiled version on the CD this month, along with the source code that creates this simple application, and a StormC project file for simple loading into StormC if you use that compiler.

You will notice that we have designed the program to run in a CLI window, as this significantly eases the process of building the interface whilst still supplying

an effective front end for the user. Menu selections are made by entering the number that corresponds to the menu item you want.

When running the program initially there will be no database file, so your first job is to add some details into the window by simply selecting option 1. Once you have some details stored in the database, you can opt to search for any data you like. This can be a name or address, in full or in part; whatever you ask it to find, the program will match your request with any part of the person's details.

One major drawback here is that the search is currently case-sensitive, meaning that the use of capital letters in entered data must match the capitals in the search pattern. We could incorporate some code to convert everything into lower (or upper) case at search time, but this is substantial work, and would certainly complicate the source code beyond the amount appropriate for this tutorial. Perhaps the more adventurous of you would like to try improving on the program in this way. If you do add to our program, we'd like to see it, so write in and show us if you do.

"There are many improvements and features that we could implement..."

“...compile and run this program on any platform...”

Portability

If you look carefully, you will see that the routines handling the file access have been changed slightly to use built-in compiler functions. The bonus here is that all C compilers should have these functions available, and as the program uses no machine-specific routines, you should be able to compile and run this program on any platform that is equipped with a C compiler, including (as you can see from the screenshot on page 47) the next generation Amiga. This is one of the true bonuses of programming in C, and makes porting programs simply a case of recompiling the code on the target machine.

For future routines that may use parts of the Operating System, it would be a case of changing the code to suit the particular OS you are using. This is usually the hard part when porting programs from one platform to another, but in our case it is as simple as it comes. Our earlier examples used routines found in the `dos.library` for opening and reading the database file, but the finished code has used `fopen()`, `fgets()` and `fclose()` which all compilers should include. Everything else is

```

0: AmigaShell
Amiga Active Address Book
Total entries: 1
Choose a function:
1 - Add person
2 - Delete person
3 - Search for person
4 - Quit
Your choice: 2
Delete entry:
Simon Archer
and all its details? (y/N)

```

```

0: AmigaShell
Amiga Active Address Book
Total entries: 0
Choose a function:
1 - Add person
2 - Delete person
3 - Search for person
4 - Quit
Your choice: 1
Adding personal details to database...
Enter name: Simon Archer
Enter address 1 of 4: PinPrint Publishing Ltd
Enter address 2 of 4: 3-11 Spring Road
Enter address 3 of 4: Bournemouth
Enter address 4 of 4: BU1 4PZ
Enter telephone number: 01202 296293
Enter mobile number: 07973 456789
Enter fax number: 01202 296294
Data saved!
Press return to continue

```

```

0: AmigaShell
Search was successful in element 1
Name      : Simon Archer
Address [1]: PinPrint Publishing Ltd
Address [2]: 3-11 Spring Road
Address [3]: Bournemouth
Address [4]: BU1 4PZ
Telephone No: 01202 296293
Mobile No  : 07973 456789
Fax No     : 01202 296294
Press return to continue

```

From top:

- Our program ready to remove my details.
- Adding details to the database is easy.
- Finding things is case sensitive.

part of the standard string handling and memory libraries, and as such should be the same.

Where now?

As we mentioned earlier, there are always improvements to be made - very few programs are ever truly finished, and ours is no exception. The first improvement would be a proper interface for use with Workbench, but this subject would take up too much space to discuss here.

The Basics: Linked Lists

A linked list is similar in principle to an array where you can store information in memory, and as in the case of an array, the list does not care what kind of data it is handling. One advantage of a linked list is that you don't have to worry about dimensioning (declaring how big the array should be) the list, as this is handled in a different way. The other big bonus is that data doesn't have to be stored sequentially, meaning that one entry does not necessarily have to follow another. Linked lists are so called because each element in the list is linked to the previous and next by a system of memory pointer addresses all handled by the underlying `exec` system. Each element of the list is a structure, even if you only want to store numbers, and this structure contains areas to store the memory pointers for each link in the 'chain'.

`Exec.library` has routines in it to be able to shift

around inside the list, navigating its way by the use of these pointers, and when an item in the list needs to be deleted, the only change to take place is that the memory pointers are updated to skip this link. `Exec` then frees the memory associated with this element, and it is effectively deleted for good. The `exec.library` also contains functions to create and delete the elements for you in a simple way, so the hard work is done for you by the system; rather than the program having to keep track of memory and elements, all you need is to know where the first element is, and the rest is fairly automatic. AmigaOS uses this system of lists to keep track of most system resources such as windows, screens and gadgets. It is such a successful mechanism that all computers store lists in this way, and this is carried over onto the new Amiga/Tao system.

Waiting for INPUT

This little piece of code does the hard work of waiting for your input.

```
// now we start our main loop waiting for user input
{
while (!done) // check the flag to see if we need to quit
{
gets(input); // get some keyboard input
}
switch (atoi(input)) // convert the input to a numeric value and act accordingly
{
case 1 :

```

► If you want to learn more about this, there is plenty of reading material that covers this in more detail, including the rather aged but excellent ROM Kernel Manuals. The other improvement would be the use of linked lists to assist the handling of data, and these are covered in more detail in the boxout below.

You could opt to offer the user more flexibility in the form of a routine that allows you to actually edit the details of a person if they decide to move house or change their telephone number, and perhaps even offer a nice list of people stored in the database. But as far as functionality goes, our program works well.

We should also really have a check on the amount of entries being added to the stored array, which is a fixed size, and as such should not be exceeded. In our source code, we have defined the array size at 500. This is an absolute maximum, and overstepping the end of this will lead to our program trampling over memory which it doesn't currently own, causing, at the very least, recoverable errors, and very probably a system failure.

To get around this potential problem, in the routine that actually adds the details a small check should be made to make sure that this physical boundary hasn't

“...pick up a compiler and wield it with malice...”

been breached, and if so, our program should display a small warning message informing the user of this.

The future

Programming tutorials have been done time and time again by various magazines over the years, but this one has at least one difference: We are not only trying to encourage readers that don't program to pick up a compiler and wield it with malice, but we also hope to outline programming techniques with a view to programming the up-and-coming future Amigas.

The Software Developer Kits are already shipping (see our review this issue, starting on page 20), and promise to offer features way beyond what we are used to on our original machines. Not only can the new Amiga be programmed in C/C++ but also in Java and in VP code. Both Java and VP code will offer a much more flexible approach to programming than has been adopted in the

The Basics: Memory blocks

As everything in computers is memory orientated, it comes as no surprise that functions exist to handle memory in an efficient way, and this can be seen in the source code for our address book program.

The `memset()` and `memcpy()` functions both handle and modify blocks of memory, and this ties in nicely with our arrays. `Memset()` allows us to fill an entire block of memory with a single value very quickly, which has been used in our delete routine. Each element in our array is a block of memory the size of the 'BookEntry' structure

and so this makes it simple to wipe out an entire element in one go. Copying elements also fits into this equation as `memcpy()` takes a block of memory to copy from and mirrors it into another block with a specified size, and this is how we have managed to fill the holes in our array left by deleting details in the middle of the array.

If you read through the following delete routine (it's simpler than it looks, just read the comments carefully), you should understand how `Memset()` and `Memcpy()` are being used...

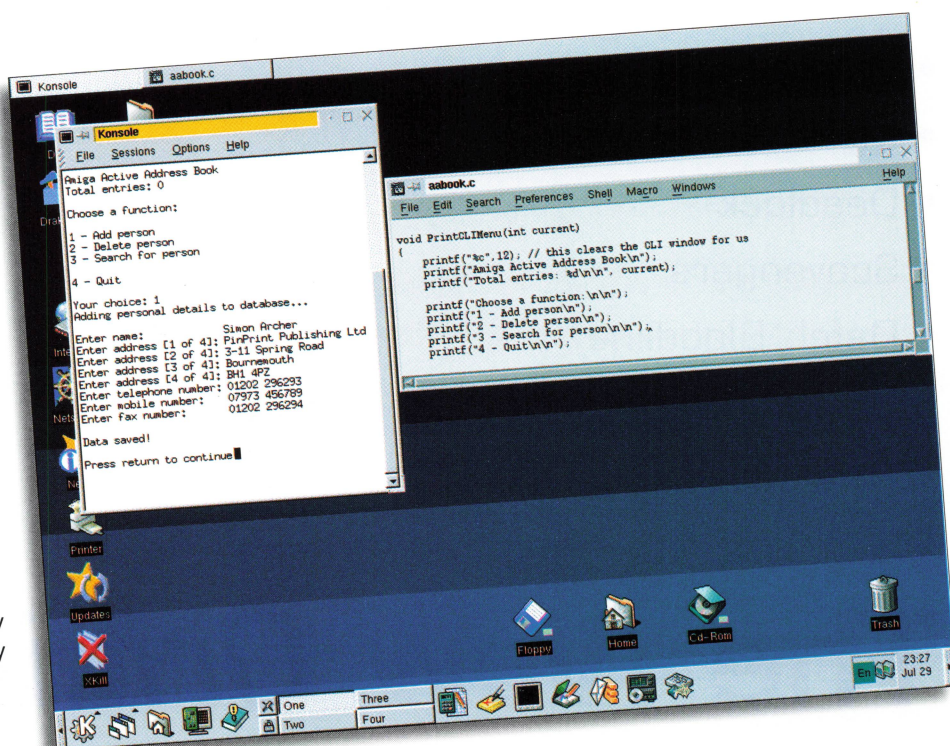
¶ denotes the end of a line.

past, giving rise to "write once, run anywhere" programs regardless of hardware and underlying Operating System.

VP (Virtual Processor) code offers a good compromise between speed of execution and ease of programming, and it is a mixture of assembler and a high level C-like language, giving facilities such as macros and the familiar If/Else decision making structures. C does have the drawback of compiling to platform specific machine code, but it is possible to translate it to Virtual Processor code making it truly portable. We will look at Java and VPCode programming in upcoming Masterclasses and Tutorials.

We hope you have gained some insight - and some interest - into the dark world of programming with this small Tutorial, and we look forward to seeing programs written by you in the future. Despite everything else, programming can actually be fun. It offers a sense of achievement that is very difficult to obtain in other walks of life, and the feeling of creating something from absolutely nothing is most rewarding, so get compiling!

Simon Archer **A**



Above: True portability - our program is running in a Linux hosted Intent shell courtesy of the Amiga SDK.

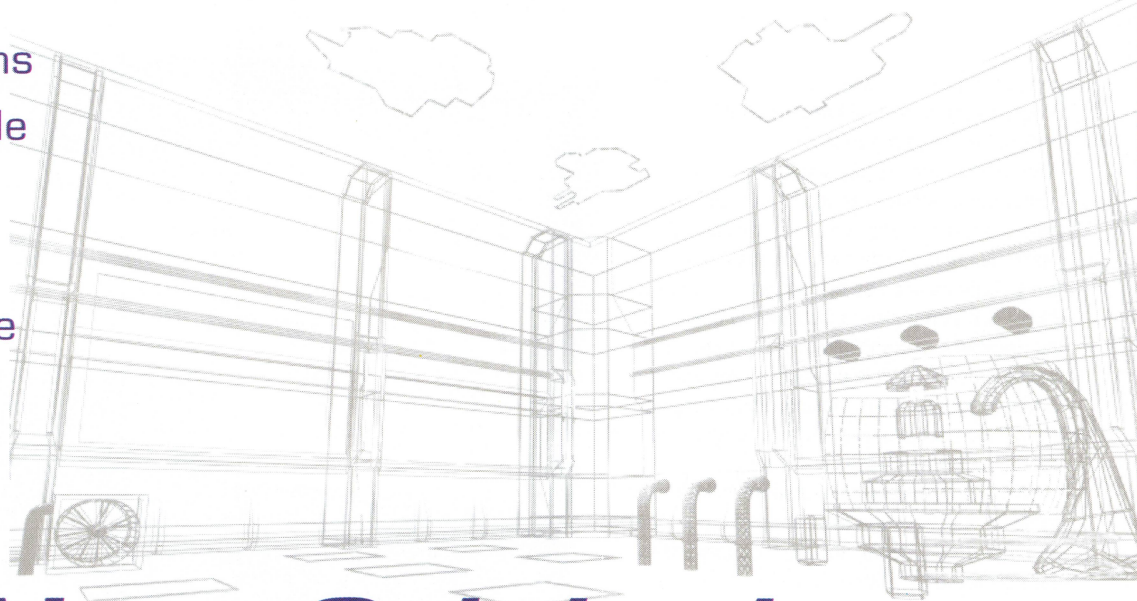
An example delete routine:

```
char *reply = ""; // this holds the reply to the confirmation
int loop=0; // used to iterate through the array during deletion
printf("\nDelete entry:\n\n%s\nand all its details? (y/N)", Persons[element].name);
gets(reply);
if (!strcmp(reply, "y")) // unless the user specifies "y" the deletion won't take place
{
    /*
    Fill the element with zero's to blank it out. This could equally be done by blanking
    out each string separately in the array element, but using memory block functions are
    quicker and easier on the eye, easing debugging.
    */
    memset(&Persons[element], 0, sizeof( BookEntry)); // the element is now full of zero's
    if (element < totalentries-1) // now check to see if we will leave a hole in the array
    {
        for (loop=element; loop<totalentries-1; loop++)
        {
            /*
            Work through each element after this one until we get to the last one, and shift each
            one back one place in the array, effectively filling the hole.
            */
            memcpy(&Persons[loop], &Persons[loop+1], sizeof(BookEntry));
        }
        printf("Entry deleted!\n"); // inform the user the element was deleted
        totalentries--; // decrement the amount of totalentries to account for the one deleted
        SaveDetails(totalentries); // and finally save the database to reflect the changes
    }
    return(totalentries); // now return the new total figure
}
```



The finished program along with sources and a StormC project file are included on this month's cover CD.

- Wasted Dreams
- Maim & Mangle
- Deadlock
- Scavengers
- Dafel: Bloodline



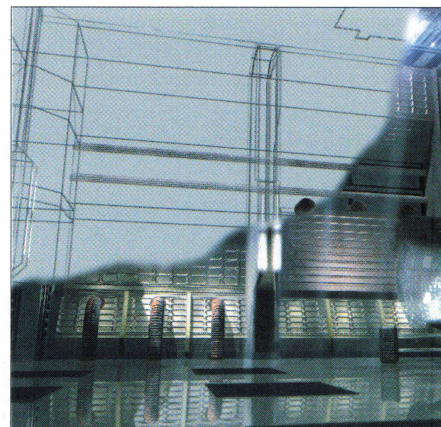
The New Originals

We've heard a lot of Amiga gamers bemoaning the lack of original titles amongst all the ports. In this Active Gamer special report, we look at some of the original titles coming your way.

Following on from the original Wasted Dreams (which we reviewed in our first issue), Digital Dreams Entertainment (DDE) are working on a sequel. Work started last autumn, and although the final name of the game is yet to be decided, it will have "Wasted Dreams II" in the title. We spoke to Raymond Cindric of DDE and asked him to tell us more.

AA: How will Wasted Dreams 2 (WD2) differ from the original?

RC: First of all, it will support graphics cards, something that most people requested for Wasted Dreams. The quality of the graphics has been improved - the background graphics are all rendered and the resolution is twice the size of that used in Wasted Dreams. The combat in the game is also improved and now our hero can use several different weapons during the game. WD2 will also have much more action and combats as well as some time limited missions to complete, but the most interesting feature of the game is the new female character.



AA: How much bigger, harder and more impressive than the original will WD2 be?

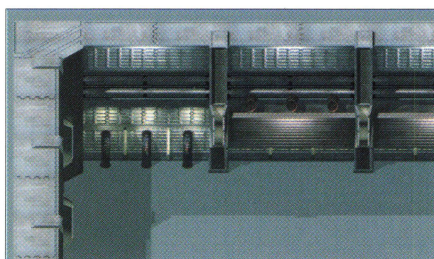
RC: It will definitely be bigger. The game is divided into two big parts. First part is inside the big space ship and the second part back on the planet. Harder? I don't know - maybe, as there are more combats in the game. Finally, it will definitely be more impressive (i.e. better graphics, better sound effects, better character control, different weapons, miss T..... etc.).

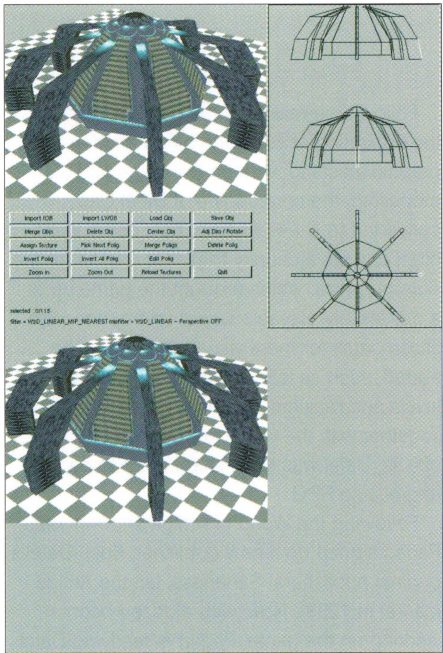
So, who is this elusive "Miss T....."? Could she be the Amiga's two-dimensional equivalent of Lara Croft? I guess we'll just have to wait and see.

"Could she be the Amiga's two-dimensional equivalent of Lara Croft?"

AA: How much of the game is completed at the present time?

RC: The game code is almost 100 percent finished (I would say 90 percent is finished already) and the 3D models are almost 90 percent done. We still have to render the backgrounds and prepare them for the game engine, though.





Above: Maim & Mangle's object editor and a scene from the intro.

Below: Deadlock promises addictive gameplay.



Continuing to Maim & Mangle

It's been a while since we reported on The World Foundry (TWF)'s progress, so we collared Ed Collins and asked him to divulge the latest news on Maim & Mangle, TWF's three-dimensional Command & Conquer style real-time strategy game for the Amiga.

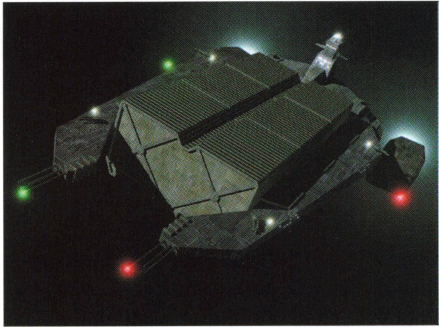
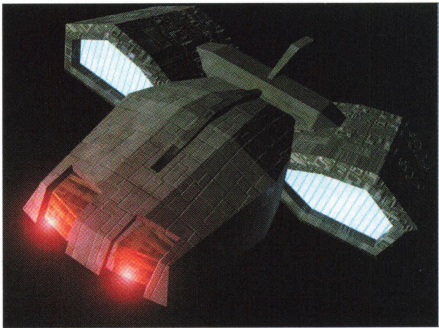
"Development of Maim & Mangle has been slowed due to several problems we have been having. The editor tools we use in developing the object and landscape data [pictured here] have been upgraded to support Warp3D, which makes them easier and quicker to use.

"Full miniGL support is in the process of being added and work is being done on porting to Linux. The compiler we have been using caused problems when a GUI is shared with the miniGL engine so our code has had to be ported to another compiler."

Deadlock, Stock...

Following our news item last issue, we are now able to bring you more information on Digital Images' latest project, Deadlock.

As with many space combat games, Deadlock is set in the future and sees you take on the role of a pilot in a war between the Farikan/EDF alliance and the Kal'Shirai. Between dogfighting, escort missions, investigating missing ships and rescuing craft and crew from impending destruction, pre-rendered cut sequences will advance the plot and weave together the story-line as the game gradually unfolds.



Above: The powerful Phoenix ship and the Nova class battle cruiser from Digital Images' Deadlock.

A large selection of ships, lasers and missiles will be at your disposal, and each pilot in the game will fly differently according to their personality - whilst some will obey all the rules, others will disregard their training and follow their gut instincts, which should provide for some diverse gameplay.

Work started on Deadlock in December of last year, and there are currently a dozen people working on the project. Stuart Walker of Digital Images told us, *"We are currently working on the graphics engine, which is already progressing well. Next on the table is Artificial Intelligence."*

It will be some time yet before we see Deadlock making an appearance on the Amiga, but if it's up to the standard of Digital Images' conversion of Psygnosis' WipEout 2097, it should be something special.

"...some will obey all the rules, others will disregard their training..."



Above: A concept render from Pagan's upcoming release, Scavengers. If the in-game graphics are anything like this...

► The New Scavengers

Over at Pagan Software, work continues on their real-time 3D space shooter, Scavengers. Pilot your band of rogues around the galaxy! Flee the clutches of the manipulative corporation out to catch you for "intercepting" one of their haulage carriers! Try to flog your newly acquired merchandise to some other poor sap who'll then have to suffer the wrath of your pursuers! All in glorious technicolor!

That's what we think you'll be doing, anyway. Scavengers will offer two modes of gameplay, mixing land-based real-time strategy with free-floating zero-gravity space battles. "And if you solve the riddle of the universe," explained Pagan's Jace Hayman when probed for information, "who knows, maybe you will become a God."

Well, it's inevitable really, isn't it - one day, you're a pirate, stealing stuff from an evil corporation; the next, you're elevated to creator of the universe. If someone had told you that a couple of years ago, you wouldn't have believed it.

Amiga Active hopes to have more details of its impending rise to Godliness later in the year.

The Thin Bloodline

Still with Pagan, but back in 1997, Jace Hayman found himself daydreaming about classic Amiga games like The Chaos Engine, Sword of Vermilion and Zelda. He liked the idea of a top-down Role-Playing Game (RPG) so much that he decided his company should make one. Such a game would be well suited to standard AGA Amigas as it wouldn't require expensive 3D hardware or PowerPC accelerators in order to achieve a high level of enjoyment and playability. Thus, Dafel: Bloodline was born.

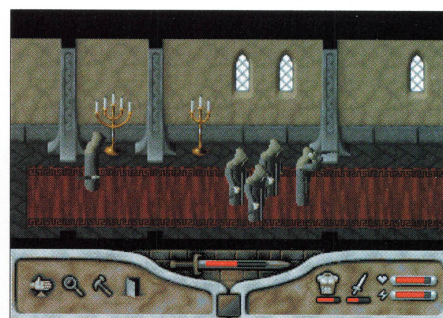
Dafel is based on an engine that one of Pagan's programmers had originally created in AMOS, and which mirrored the semi-isometric viewpoint used in the Bitmap Brothers' classic The Chaos Engine. But, as with all good RPGs, a good storyline was also a necessity, so Jace decided to base use the world of an RPG he had been designing for several years, called Ravenstark.

Six months later, Pagan had a small demo of Dafel up and running, which they released to potential publishers. After signing up with the now defunct Sadness Software (publishers of Paul Burke's Foundation), the storyline was soon completed and work started on the in-game details.

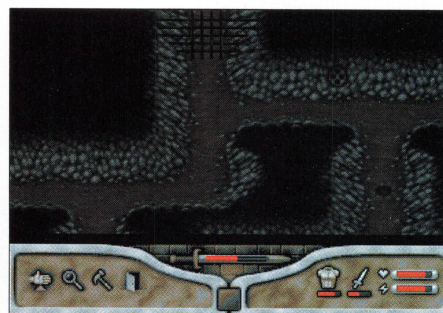
Following a rewrite of the game engine at the beginning of 1998 and hiring another four graphic artists to work on the maps and 3D modelling, the core engine of Dafel was converted to C++. Another new coder was hired to write a chunky-to-planar routine for the AGA graphics, which brought the game up to a realistically playable speed and opened the sluice gates for more visual elements to be added, such as falling snow on the winter levels and realtime shadows for the characters. Together with the virtual surround sound effects, Dafel was soon shaping up to be an engrossing RPG.

Following the World of Amiga show in 1999, Pagan signed up a new publisher, Epic (Dafel's original publishers, Sadness, left the Amiga market in 1998). Now, with a dozen people working on the game, Pagan is readying Dafel for release. RTG (Re-targetable Graphics) code has been written so that owners of graphics cards won't have to resort to playing Dafel on a television and the various game elements are being bound together to create the finished article.

Pagan expect Dafel to be released within the next few months. In the meantime, their online development diary should give you more of an insight into the highs and lows of the game's development. You'll find Pagan's web site lovingly transferred to this issue's coverdisc in the web sites section. Fare thee well... **A**

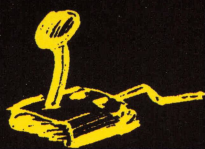


Above: Pie lesu domine, done eis requiem... *clunk!*



Above: Someone turn the light back on. This isn't funny.

"...falling snow on the winter levels and realtime shadows for the characters..."



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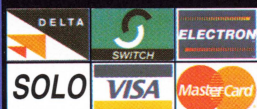
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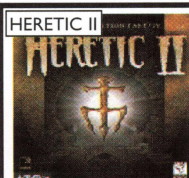


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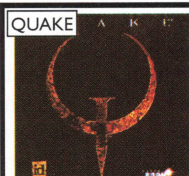
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£29.95

Psygnosis game ported from the Playstation. Lightning fast reflexes rule in this race 'n chase thriller where your goal is to stay in the lead and defend your craft against other pilots. 8 tracks with 3 race modes and 4 race classes. *Needs PPC, 24MB, 3D-Gfx card, CDROM*

'A magnificent, adrenaline-pumping game' - 92%
AF : AA-Gold 9/10 - AmigaActive



£24.95

Quake is one of the biggest games ever to hit the Amiga. A total classic in its own right - however it can be upgraded with literally hundreds of great 'Total Conversions' to keep you playing for years!

Needs AGA, '030/40+FPU, 8MB, CDROM

'Worlds hottest game' 94% - AF
'King of games - buy it' 95% - CU



£39.95

NEW! The next masterpiece from the creators of Wasted Dreams... Hell Squad is an enticing army-based strategy game with a stunning FMV intro. It has both a puzzle solving requirement and a need to stay alive!

Needs '030/40, 8MB, HD, CDROM

Forthcoming Review



£29.95

This gruesome game needs no introduction. Incredible graphics, astounding CD audio and gameplay to make you weep. A huge game with over 100 different types of units/buildings and a fistful of awards from the critics!

Needs '040/25, 16MB, HD, CDROM

'This is an absolutely cracking, original Amiga game' - AF, Gold Award

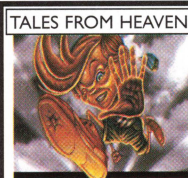


£34.95

Team17 and ClickBOOM join up to bring us one of the biggest games to ever hit the Amiga! Stunning 16-bit graphics, jaw-dropping full-screen movies, over 80 gorgeous and detailed locations and full speech.

Needs Gfx card, '030/40, 16MB, CDROM

Forthcoming Review



£24.95

Welcome to the first Mario N64 clone for the Amiga! Play with Zaac amongst four worlds - full of enemies, treasures and surprises. Run, jump and shoot all in the beauty of real 3D. With AGA & graphics card support.

Needs '030/40, 8MB, HD, CDROM

'... I enjoyed playing for hours on end' Amiga Format



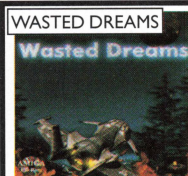
£24.95

A side-scrolling arcade action shoot-em-up of the highest quality. Includes superb 2-player gameplay, big end-of-level baddies, full 16-bit audio track & BIG 3D intro with cut sequences

Essential for Project-X fans!

Needs AGA, '030/40, 8MB, HD, CD

'Fantastic! Get it now!' 93% - AF
AA-Gold 9/10 - AmigaActive



£19.95

Another outstanding game by Digital Dreams. In this highly acclaimed action/adventure you mould your character into anything from a blood-thirsty killer to a diplomatic negotiator. Highly involved strategy game with an arcade feel.

Needs '030/40, 8MB, HD, CDROM

'A brilliantly executed and absorbing game' 8/10 - AA. 'A great game' - AF

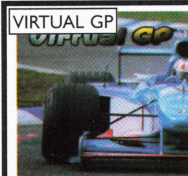


£24.95

THE Amiga real-time strategy war game. This latest version contains the full game but optimised for gfx cards with an all-new rendering engine with gouraud shading, transparency & lighting FX, and the levels from the 'Missions' CD add-on.

Needs '030/40, 8MB, HD, CDROM

'If you missed it first time round, buy it NOW!' - Amiga Format

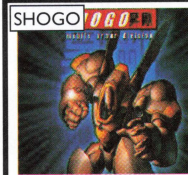


£19.95

The most up-to-date Formula 1 car racing simulator on the Amiga with some of the most realistic gameplay ever seen in an F1 game. Now with all the latest teams from the 2000 season and a brand new arcade model too!

Needs '030/40, 8MB, HD, CDROM

'A must buy for dedicated F1 simulation fans' Amiga Format



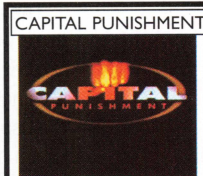
£39.95

Hyperion brings Monolith's awesome action-packed 3D robot extravaganza to the Amiga. Go to battle in huge robots using a massive array of weaponry, whilst watching amazing lighting effects and detailed scenery!

Needs PPC, 3D Gfx card, 32MB, CDROM

Forthcoming Review

THE EYE-PLAY GOLD SELECTION

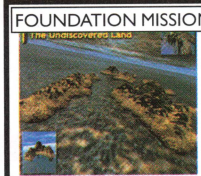


£14.95

Capital Punishment is THE original Amiga beat-em-up. This is one of ClickBOOM's biggest titles ever. Featuring many moves and gorgeously detailed characters, this is a game you won't be putting down in a hurry!

Needs 8MB, HD

'There's only one word for the graphics - SUPERB!' - AF, Gold Award



£14.95

Do you have Foundation or Foundation DC? If so, you need this - 'The Undiscovered Land' missions CD! This CD contains 40 new and challenging missions to keep you busy for many more months!

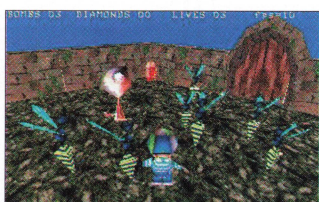
Needs '030/40, 8MB, HD, CDROM

Forthcoming Review

UK Bank/BS cheques, Visa*, Mastercard*, Switch, Delta, Connect, Solo, Electron. Postal/Money orders accepted. (* 3% clearance charge applies to all credit card orders). Due to space limitations some of the specs given are indicative only - please ring/write for further details. Please check prices, specification and availability before ordering. **If ordering by post, please provide a daytime telephone number.** Goods are not supplied on a trial basis. E.&O.E.

Tales From Heaven

Amiga gets a Mario 64 clone at last...
how does Zaac compare to the
Italian maestro of platform gaming?



The console has always been king of the platform game. There have been some wonderful and very innovative Amiga platformers that have cropped up over the years, but it is not a genre of gaming that the Amiga is noted for. In the dim distant past when Sonic the hedgehog hurtled Sega into the big time, Gremlin Graphics tried to emulate the success of the spiny blue one with the ninja alien, Zool. Darkage's response time is a little slower, but in **Tales from Heaven**, they have an answer to Mario 64.

With the release of the 32-bit games consoles came a new wave of 3D platform games. Titles such as Tomb Raider, Mario 64 and Crash Bandicoot brought 3D engines to the platform genre. In the last few years the Amiga has been discovering a surprising ability to cope with 3D, so it was only a matter of time before someone would try to challenge the ugly Italian plumber in his new, 3D home turf.

True 3D

Tales from Heaven is a true 3D platformer, with polygon characters and polygon platforms. It is written using a custom 3D engine and runs on both AGA and graphics cards. I'd guess the engine uses some custom chipset trickery because it actually seemed slightly slower on my graphics card than through the AGA display.

There is the option to play at half resolution (very blocky but quicker) and turn off the sky effects, making the game playable on a surprisingly low-end machine. On an Amiga with a good accelerator, you can get the full 320x200 resolution at full speed - possibly even too fast on the fastest '060 equipped machines.

Unsurprisingly, Tales from Heaven comes with a plot. As is traditional, however, it makes no sense whatsoever, but provides an excuse. As far as we can make out, your cat, Hairo has been kidnapped by an evil force called "the Misties" and taken to their magical realm. You, a ten year old boy mysteriously called Zaac, must use your amazing powers of being able to jump and drop bombs to rescue him.

The action takes place over three worlds and 12 levels, involving the normal run of leaping from suspended platform to suspended platform, some of which move, turning levers, pushing things about and running away from nasties.

"Darkage's response time is a little slower, but in Tales From Heaven, they have an answer to Mario 64."

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We'll cross that bridge when we come to it, if that's okay with you.

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You've never had it so easy...

THE FUTURE OF AMIGA CLOTHING...



Here at Amiga Active, we think you should have access to the best Amiga clothing. So each month, the best letter we receive - the one which makes us laugh the most or think the hardest - will win its author an Amiga Active T-shirt*. If the lucky star (above) makes an appearance next to your letter, you can expect one in the post shortly afterwards.

Note: You must include your postal address in your letter or e-mail to be in with a chance of winning.



*Style of T-shirt may differ from that pictured here.

InterActive

Your chance to pester the Editor! Write to: *Amiga Active Magazine*, 3-11 Spring Road, Bournemouth BH1 4PZ. Or, if you enjoy the pleasures of being online, send your e-mails to us at interactive@amigactive.com

From old to new

For several years before Bill and Fleecy took over, we listened to lie after lie, broken promise after broken promise, U-turn after U-turn and cancellation after cancellation. More and more people left the Amiga until it reached its current critical state with the closure of Amiga Web Directory, Phase 5, Amiga Format and such.

All the same, it's a pity some people left when they did. After all the disappointments, things are finally looking up. The Devbox is only the first step, but it marks the first new product and kept promise in years!

What we will see in some 10 months or so when Bill and Fleecy have made a consumer version of their Devbox is likely to be an "Amiga 2." It will bear very little resemblance to the A500s everyone had for games in 1989. Elate will be nothing like Workbench 1.2 or 1.3, which people seldom used anyway as they just booted games from floppy disk. Only us Amigans who have stayed by the Amiga through all this torment will notice any similarities between the classic and NG Amiga.

We'll need built-in Classic Amiga emulation for the NG at all costs; you can't take a PC and call it an Amiga unless it runs some degree of old Amiga software. How well it works is something I'm not looking forward to - emulators are traditionally slow and dodgy.

Amiga Format is a sad loss, but a significant one. They stuck close to the old classic Amiga from 1989 until just before the Devbox; the infancy of the New Amiga generation. *Amiga Active*, however, is fairly new, and like its slogan says, is the Future of the Amiga.

What we will see in some time is a new Amiga era. Amiga Format was the spirit of the old Amiga; *Amiga Active* will be the future of the Next Generation platform. Keep it up, guys!

Stu MacDonald,
Amiga Animator.



Left: Computer City's Blue Box, one of many developer systems now available.

"For several years before Bill and Fleecy took over, we listened to lie after lie..."

While UAE has come along in leaps and bounds, even on a powerful PC, Amiga emulation is problematic. However, Amiga say that the "emulation layer" they are using is much more than just UAE emulation, so hopefully we will indeed have the next generation Amigas running classic Amiga software well.

You make a good point about the compatibility being something that only those of us who stuck with the machine will really notice, which you might say suggests that emulation isn't so important after all. On the contrary, I think that it makes the quality of emulation that much more important. A decent emulator may be enough to keep us lot happy, but if they can get something totally transparent so that you're not really aware you are running "classic Amiga" software on your next generation machine, they'll be in the position of having about 50,000 pieces of software ready at launch time!

Give me links!

For many years I have been a fan of computers, and in particular the Amiga. I saw the A500 (a friend came over with one imported from Germany and we played Defender of the Crown) come and go. I now have an A500, A500+ and an A1200T (networked with a PC).

During this time many magazines have seen the light of day as well as the darkness of being laid to rest in recent years. Today there are not many left. Believers, companies and magazines alike are dwindling fast. I have hope, but it is starting to fade somewhat. However, Amiga Active has really brightened my day in a big way. It is well written, informative and does not take itself too seriously. To my surprise, I can purchase it even here in Sweden.

What I would like to see - both on the web page and in print - is a collection of web links to companies, publishers, creators etc. who support the Amiga community. It would also be nice to see special articles covering e.g. Siamese RTG (how to make it work) and comparative articles between similar products like Ariadne 2, IOBlix and PowerLan among others.

Peter Ståhlberg,
Sweden.

We carry whole web sites on the CD, and have lists of dealers as part of the Amibench database we carry each month. A listing page sounds like a good addition for quick reference, but there are already other online resources that carry this info. There's a bit of a void with the closure of the Amiga Web Directory, but you might want to look at the new Amihoo web site for a similar theme with a familiar look!

"Your magazine is simply the best Amiga publication currently hitting the shelves world-wide."

On the shelves?

Your magazine is simply the best Amiga publication currently hitting the shelves world-wide. And that's the flaw. Does it really hit the shelves, at least in London? I used to live in Kennington, South London, where a local

newsagent had my copy ready for me every month. Until I moved to another part of London, I just assumed every decent newsie had Amiga Active. Which, apparently, is not the case.

While I can always pop back to Kennington and grab my copy, I think some concern ought to be raised about Amiga Active's distribution system, at least in London. And, what worries me even more: if the magazine cannot be found in ANY good newsagent in Central London, can the situation be better elsewhere?

Would be cool if you kept an eye on this, my friends. Cheers and good luck with your Amigaworks.

Vanni Torelli,
via e-mail.

Being an Amiga magazine, we simply don't have the coverage bigger selling magazines have - it just wouldn't be economically viable, and thus we have to target newsagents that are actually selling the magazine. We aware that there are holes in the distribution network (not being carried by Borders, for instance) and are constantly looking to fill those holes.

Having said that, I'm surprised you are having so much trouble - I've noticed Amiga Active in several newsagents in central London. Remember that you can always ask a newsagent to order the magazine in for you each month - just use the magsave coupon on page 62.

Pretty as a picture

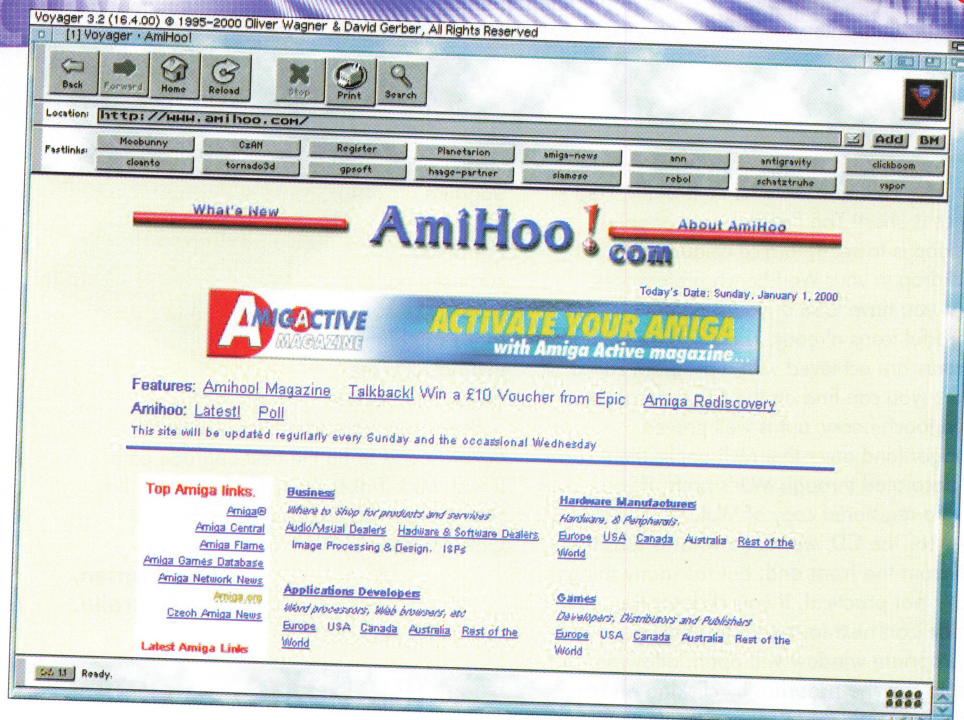
You always show screen shots which look very handsome. My Workbench or Voyager is grey and blue. How about enlightening me! I am left wondering how to brighten up my little desktop. I used to use MagicWB on WB2. However, I try to avoid all patches now due to software compatibility problems with WB3.5 etc.

I really enjoy the magazine. The CD does cause a few mutters.... I'm not sure if your glamorous front end is terribly important. I would much rather see a simple graphical interface with a tree which allows me to trace through a path and when I point at a title string a sub menu would appear which directly opened the software. And my last point! Where is the software sometimes? I click on the title, a readme file is there and nothing else.

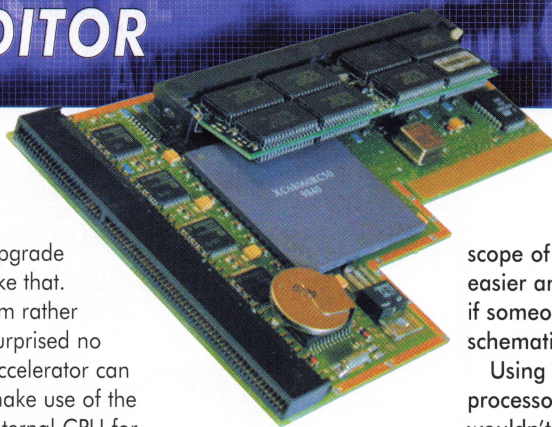
Fred Vintner,
via e-mail.

After issue 2?

Issue 2 of Amiga Active sold out extremely quickly, leaving a few frustrated collectors. Reader John B. Dean, having heard of the plight of these people, bought four copies he found left in his local newsagents. He's willing to pass them on at cover price (plus postage). Drop us a note with your contact details if you are interested, and we'll pass your details on to John. **Top geezer!**



A blatant plug for Michael Carillo's Amihoo web page.



Left: Accelerator cards are complex beasts.

► Sorry for cutting your letter so brutally, Fred - space is short! The first step to a brighter desktop is to set up a nice colourful backdrop in your Workbench preferences.

As you have OS3.5, you should have nice colourful icons already. The coloured window borders are achieved with a program called Birdie (you can find on the CD this month). It's a touch hacky, but is well proven. Voyager (and any other MUI application) can be decorated through MUI's prefs, if you have a registered copy of MUI.

As for the CD, we make what is feasible run from the front end, but for many things that's not practical. If you click on the folder icon next to the name, the appropriate window will open, allowing you to run the program by clicking on the icon as normal. This only works if you are running OS3.5, ScalOS or Directory Opus Magellan. You also have the option of viewing the CD contents through Workbench or a file lister, of course.

Accelerator schematics wanted!

First, I must ask: how do you intend to survive where Amiga Format didn't? They said their production wasn't geared to volume sales but they still went under.

What I would like to see is schematics to an accelerator for an A1200 either in your magazine, or on the CD (I prefer printed text to on-screen text, which is why books will never become obsolete). It'd be interesting to see what really needs to go into a CPU

upgrade like that. I'm rather surprised no accelerator can make use of the internal CPU for 'subsidiary' tasks!

Personally, from what I have seen the BoXeR seems to be the best upgrade path (I wish Mick Tinker the best of success). I'm glad that Amiga has been 'saved' from Gateway, too.

Nick Hansen,
Australia.

"...the BoXeR seems to be the best upgrade path..."

We don't know why Amiga Format was closed, but we do know our finances and we know our breakeven point is well below the number of copies of Amiga Format that Future sold when they closed it.

Accelerators, like magazines, are also pretty complex things, so schematics would take a lot of space. An accelerator would have of the order of 1000 solder joints and a complex double-sided or multi-layered PCB, so schematics would probably look rather fiddly, and it's rather beyond the

scope of a DIY article (it would also be far easier and cheaper to buy one!). However, if someone is willing to let us have their schematics, we'll put them on the CD.

Using the internal CPU as a second processor might be hackable, but it wouldn't be worthwhile. The speed gain provided by the slow '020 would be minimal, and the extra components necessary would push the cost well beyond that of simply fitting a faster single CPU on the card.

A Linux magazine?

I filled out your survey last month, and when I walked into my local bookshop last week, I found your mag again on the shelf. Okay, it was issue 6 but it is the only mag I can get here now. I am thinking of getting a sub to the mag, but I did that with Amiga Format in January this year and now receive a Linux magazine. Keep up the good work!

Hans Berkhout

From a sunny Nelson, New Zealand.

We promise, hands on hearts, never to switch your subscriptions to a Linux magazine! You should have received a letter from Future offering you a refund as an alternative to having your subscription moved to Linux Format - switching all those subs by default means that unless you specifically asked for a refund, you got the Linux mag instead.

Andrew Korn **A**

Doctor! My brain hurts!



Dear Intercity,

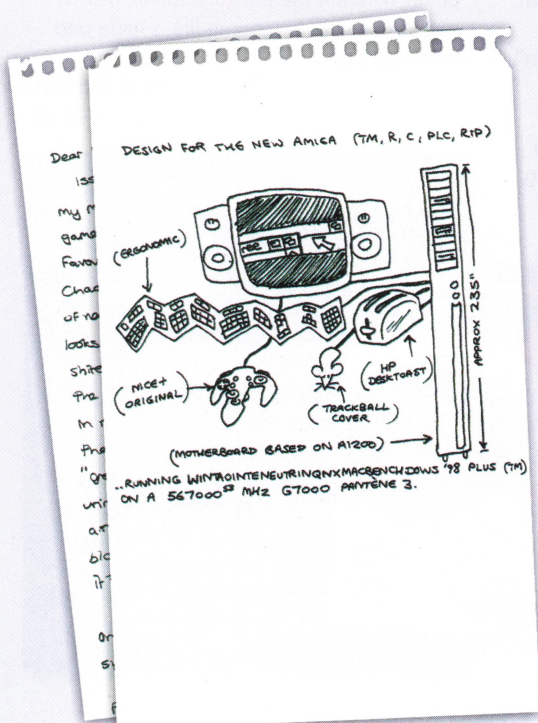
Issue 10 and the quality still hasn't dropped! Anyway, my main point: is it me, or have all the quality 3D games on the Amiga been conversions? Sadly, I think my favourite Amiga games are Zool 2, Robocop 3 and The Chaos Engine (which says a lot about the availability of new games in local shops!") Okay, the DBIB thing (a Doom type games creator, see AACD 10 - Ed.) looks quite promising but the supplied game is pretty shite (pixellated bad guys and the ability to shoot out the lights but not the bulbs). What I would like to see in new games (not conversions) is "nice little touches" that make them special. For instance: Medals of Honour's "grenade fetching dogs", Duke Nuke 'em's "interactive urinals", and Goldeneye's second/third level "bit in the air duct where you can try to shoot the hat off the bloke in the cubicle without him noticing." So how about it?

Oh yeah, great bit of free Alpha Software advertising on July's page 54. Very subtle. And has Mr. Murfin's system clock gone slightly wrong...?

Big G.Al's Blouse,
Suffolk.

P.S. Can't wait to see issue 11's review of "Melons (2 of)".

"Grenade fetching dogs"? Anyway... Big G also sent us this design (left) for the next generation Amiga. While we see little to fault in this setup, it's a little behind the times. We suggest using the Pantene Pro V instead, which has better multimedia extensions, improved cache performance, and Jojoba oil.





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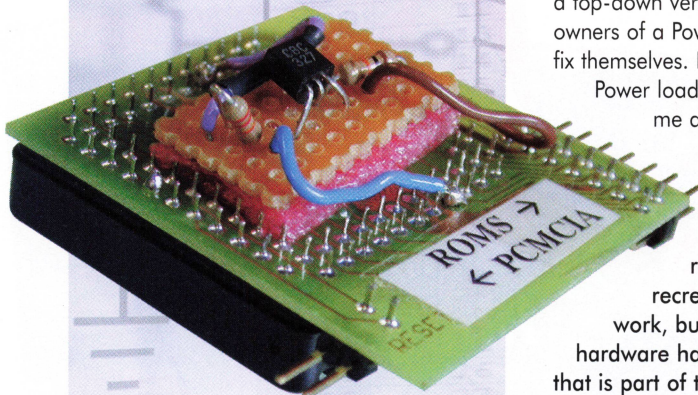
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Ask the Guru

Plenty of questions this month, so the Guru has sweated blood and tears to answer them all.

Below: The PowerLan Gayle fix - easier than DIY.



DIY

Gayle Fix

Hi, I spotted that Power are now supplying the PowerFlyer Gayle board with the PCMCIA fix attached to the top (Issue 10, Page 28). I was wondering if you could show a top-down version of the picture so that owners of a PowerFlyer can install the Gayle fix themselves. I've tried contacting Elbox and Power loads of times but they won't give me any pinouts.

Steve Clack,
via e-mail.

Well Steve, we can't really show you how to recreate someone else's hard work, but I can tell you that this hardware hack is based around a file that is part of the CNet device driver distribution for PCMCIA network cards, and it includes details of how to create this kind of fix. The file has been included on this month's CD for you to look at, but bear in mind that we take no responsibility if you do any damage of any sort through attempting to execute this hack yourself.

“...we can't really show you how to recreate someone else's hard work...”

Feeling Blue? Ask the Guru!

If you have any technical problems, tips you'd like to pass on, or requests for in-depth coverage of a particular problem, please send them to:

Ask The Guru,
Amiga Active Magazine,
Systems House,
3-11 Spring Road,
Bournemouth,
Dorset BH1 4PZ.

Alternatively, e-mail them to the
Guru's personal mailbox:
guru@amigaactive.com



Hardware

Questions questions

Hello there. I have been a faithful supporter of the Amiga since I was ten years old (probably because it was the first computer that I could really use), and therefore love it! I have several questions to ask:

1. I have an A1200, 68030/40MHz, 18MB RAM, 1.2GB HD running OS 3.0 and working on my 14" colour TV! (I know that I'm MAD, running it on a TV!) I badly need an upgrade, but the question is which way do I turn? Do I go for the 3D graphics cards and accelerators, or stick it

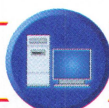
out for the AmiJoe? My Dad is a computer engineer, so servicing is no problem, and either way the Amiga will need a monitor, OS 3.0 (+ ROMs) and tower... any suggestions?

2. I can't get AWeb to go onto the Internet. I can load the program OK (v3 demo), but it won't let me onto the 'net (just doesn't register that the modem is connected) or change the prefs. Why not?
3. I have a Pentium laptop, would my Amiga be able to network with the laptop via a 3Com PCMCIA network card (one for the Amiga and the other for the laptop) using Cloanto's new(ish) Amiga-PC Explorer? What would I have to do, or would it mostly configure itself (don't worry about the PC-side)?
4. What software would you recommend for the Internet? I have absolutely no idea how AmiTCP works, but would like to know, as AWeb and IBrowse look like really good programs (I use Voyager with Miami at the mo').
5. SimCity2000 will not load! It continues to show an error message saying that there is a music program working in the background, but I have (at one stage) renamed Workbench Startup, removed all programs from the Startup sequences and turned off the sound prefs, but the same error message came up. It used to work two years ago but doesn't now, and the disks are fine, because the program installs perfectly.

I would be grateful for any answers to these questions, and I would just like to let you know that this e-mail was done on my Amiga, which is now 14 years old, but still faster than most of the PCs that I have used! Oh, by the way, great mag! I really enjoy every second reading it.

Daniel Austin,
via e-mail.

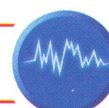
What do they mean?



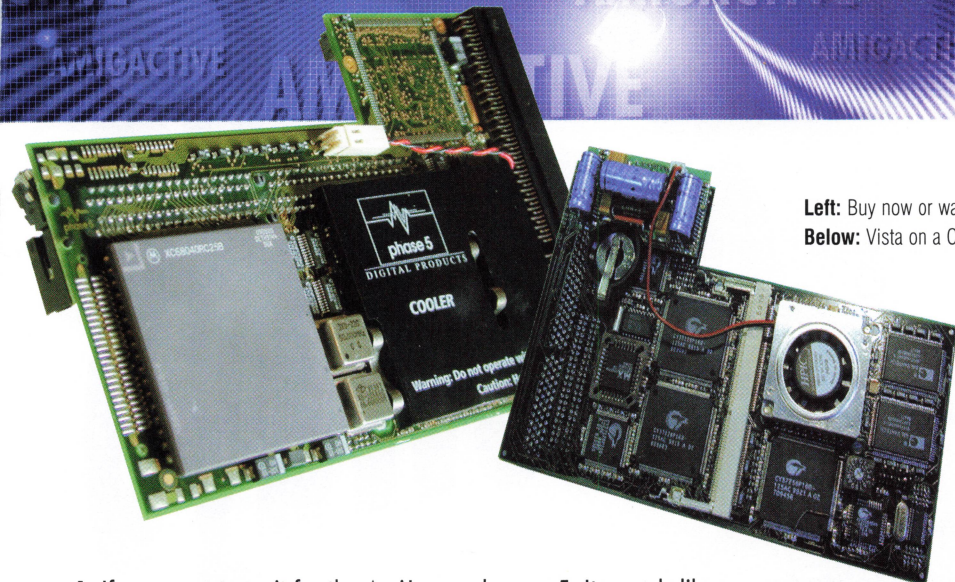
Our lovely Guru will
sort out your silicon.



Sloppy software?
Bug the Guru!



Networking and the
art of Zen explained.



Left: Buy now or wait?

Below: Vista on a Cybervision?

1. If you want to wait for the AmiJoe card that is entirely up to you, but it is probably good advice to think about what you need from your computer now, and make decisions based on what is available at the moment, otherwise you could wait forever. There is a new run of the current phase 5 designed PPC accelerators and complementary graphics cards that should have hit the shelves by the time you read this, so they may be your only choice. For a monitor you have an almost endless choice, but you could check out the extensive monitor feature we did in issue 5.

2. I think you'll find that the AWeb demo is only a local version, and won't actually navigate the web across a network. This is the same version we use for our CD's.

3. Ethernet networking across these two platforms is entirely plausible, and isn't too difficult to set up. Set up the TCP stack on the Amiga and initiate the connection. Once you get the two machines to 'Ping' each other the connection is working, then you could follow our Samba Masterclass from issue 4 to get the Amiga to appear in the PC's Network Neighborhood.

Either Power Computing or Eyetech will be happy to sell you the hardware and software you need. Cloanto's Explorer is much easier to set up, but more limited.

4. If you didn't have any software I would heartily recommend the NetConnect 3 package which is great value, including registered versions of all the VaporWare programs. Seeing as you already have a TCP stack and a browser, it depends on what else you want to do with the 'net.

5. It sounds like you have something running from your startup scripts that could be locking the audio channels. Try booting up without startup-sequence from the Early Boot Screen (holding down both mouse buttons) and then start SimCity from the initial shell. There shouldn't be any other software running at this point, so if the problem persists it could be a problem with the hardware, unfortunately.

"...all my mates ask why I bother spending all my money on a machine that doesn't work..."

Although being nowhere near a state of the art machine, there is still a lot of use left in the Classic Amiga so long as you don't need access to all the latest formats and games. We're glad to hear you are enjoying the magazine - we try our hardest to please everyone.

Crashing screens



Software

Please help restore my faith in the Amiga. For years, I have put up with Pal screenmodes because I couldn't afford anything else. I finally took the plunge a couple of months ago and spent some serious cash upgrading.

My set-up now consists of an Amiga 1200 (rev. 1D1), Apollo 1240 with 32MB RAM, 8x CD-ROM drive, 4.2GB hard drive, Z4 busboard and CV64/3D running CybergraphX v4.

Recently I've had loads of setup problems, which the nice blokes at Eyetech have sorted out, but I'm still tearing my hair out. You see, the problem is that although I now have lovely CGFX screens, when it comes to running my old programs such as Imagine 4, Scala MM300 and VistaPro (to name but a few) I have absolutely no luck at all. If I try to run them from a CGFX screen the system

locks up. "A-ha!" I think, "it's opened up a PAL screen." So I switch the screen and - lo and behold - nothing. I get a flicker of the program in question as I change screens but that's it. Even if I change to a native screen-mode before loading I get the same result.

Now, my system has a utility in Sys:Prefs/Presets called cv-view, which I believe is supposed to help - but it doesn't. It refers in its tooltypes to my second prefs drawer (long story - my graphics card played

silly buggers and the only way I could get the Miggy up and running again was by installing a new prefs drawer), but when I use it, it just gives me a low-res screen.

I am despairing - all my mates ask why I bother spending all my money on a machine that doesn't work like it ought to and tell me I should buy a PC - and I'm inclined to agree, except I'm extremely stubborn, and I love this old beast anyway.

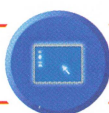
Please help me to regain my faith.

Paul Williams,
via e-mail.

The programs you mentioned (along with others) don't like being promoted onto a CGFX screen, I'm afraid. It is difficult to say why switching screens crashes the machine - you could try a latest update of CGFX, and turn off any system 'enhancements', like MCP or MultiCX to see if there's a software conflict. Otherwise, it sounds like a hardware problem, but it's impossible to suggest what without more information.

CV-View is a picture viewer, so why it's stored in prefs/presets is a total mystery. It would be much better off in a general location like Sys:Tools or Sys:Utilities, and setting its tooltypes to use the RTG screens should yield decent results.

The Guru A



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Say WHAT? You
must be bonkers!

Opening the

Gateways

CGI may mean graphics to Hollywood, but on the Internet they're a way of letting web site visitors talk back.

JavaScript is an easy way of adding extra functionality to a web site. However, it has some fairly serious limitations. Browsers interpret 'standard' JavaScript differently, some don't support it or have it turned off. It is unable to store or update information, apart from a very small amount that can be saved as a cookie. Both of these limitations can be avoided if your script is run on the server instead of the visitor's browser.

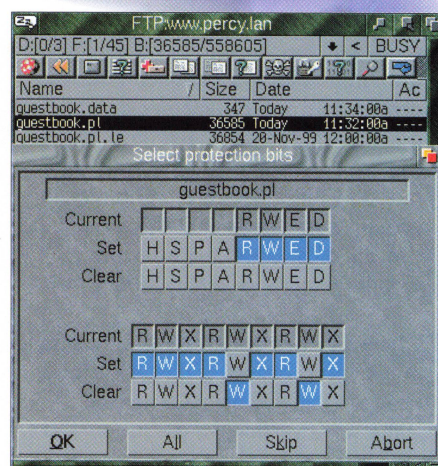
The Common Gateway Interface (CGI) provides a means for a browser to send information to a program running on the web server, and for the server to send data back. The process is invisible to the visitor, who just clicks on a link and gets a web page.

CGI programs can be written in any language supported by the server; C/C++, Java and various scripting languages can be used. Rebol is beginning to gain acceptance as a CGI language, but Perl is still the most popular: It is available on most platforms, is quick to work with once you've got your head round the somewhat cryptic syntax, and is

easy to modify. The last point is the most important. There are a vast number of Perl scripts written to do just about anything you could think of. You don't need to understand Perl to use them, although you may have to edit a couple of lines to get it to work with your web server. Not all ISPs allow you to store CGI scripts in your web space, but this isn't necessarily a problem as you can store and run the script on a different server.

Adding a guest book

Some web space providers give you access to a guest book script, but it may not do what you want. There are hundreds of guest book scripts available - we've picked one as an example - the files are in the "Magazine /Online/GuestBook" drawer of the CD.



Above: You won't find this in the Opus manual, but the standard Protect command also handles chmod.

"Web servers generally run on either a Unix variant or Windows NT."

Web servers generally run on either a Unix variant or Windows NT. It normally doesn't make much difference what is serving your web pages, but it does matter for CGI scripts. Scripts generally have a filename extension of ".cgi" but Windows uses the filename to determine the type of file, so rename "guestbook.cgi" to "guestbook.pl".

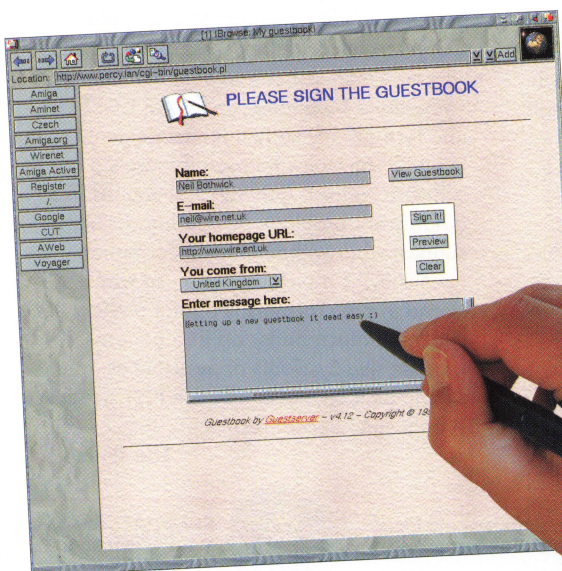
You can use ".pl" on a Unix server too; it avoids confusion if you stick to a standard naming convention. Unix doesn't care about the filename as

it uses the first line of the script to determine how to run it.

Edit the script so that the first line points to the location of Perl on the server. The line starts with a # so it is treated as a comment by Perl itself. You'll need to check with your provider, but it's usually something like...

```
#!/usr/bin/perl
```

NT servers don't need this information, so leave the first line as it is. Some CGI scripts contain the configuration information as variables at the start of the script. Others, like this one, use a separate config file. Edit this file to suit your requirements - full instructions are in the file as comments. You can leave most settings at the default for now, but the first item, the location of the guestbook script, must be set before you use it. While you are asking about the path to Perl, ask about the location of the "sendmail" program too. Most scripts that send e-mail need to know this.



Above: Our new guest book, uploaded and working!

You can use any FTP program to upload a CGI script. If you are uploading from a PC to a Unix server, you should upload in Text mode instead of the normal Binary mode. This takes care of the different handling of line feeds on the two platforms. Uploading from an Amiga will work fine in Binary mode. Scripts are normally stored in the cgi-bin directory.

Permission granted!

After uploading to a Unix server, you have to set the file permissions using the "chmod" command. This uses a three-digit number to define who can do what with the file, with each digit covering a class of user. The first sets the access for the owner of the script, the second covers any user in the same group as the owner and the third covers everyone else.

The types of access are Read, Write and Execute and have the numbers 4, 2 and 1 respectively. These are added together to give the setting for that user. The normal setting for a CGI script is 755, which gives the owner full read, write and execute access (4+2+1) and everyone else read and execute access (4+1). In other words, anyone can run the script but

only you can change it. A data file, such as our guest book uses to store comments or its configuration, is set to 644. This means the owner (in this case the script) can write to it, but others can only read it.

Some FTP programs, like SimpleFTP, have an option to set file protections for you. Directory Opus does it through the normal Protect option. Select a file in an FTP lister and the Protect function gives a requester for setting bits of 'rwxrwxrwx' - read, write, execute for each user type, instead of the normal AmigaDOS 'hsparwed'. Other FTP programs have a "raw" mode where you can send a chmod command direct to the server, as in "chmod 755 guestbook.pl".

Once you've edited the config, uploaded the files and set the permissions, you're ready to sign your guestbook. Point your browser to <http://www.yourwebspaces.com/cgi-bin/guestbook.pl>

"It is also possible to include the output from a CGI script in a page as it loads, in a similar manner to using the JavaScript method."

Showing environment variables

```
Your IP address is:
<!--#echo var="REMOTE_ADDR"-->¶
Your hostname is:
<!--#echo var="REMOTE_HOST"-->¶
Your browser is:
<!--#echo var="HTTP_USER_AGENT"-->¶
This server is:
<!--#echo var="SERVER_NAME"-->¶
Its software is:
<!--#echo var="SERVER_SOFTWARE"-->¶
The time is now:
<!--#config timefmt="%I:%M %p on %A
    %e %B %Y"-->¶
<!--#echo var="DATE_LOCAL"-->¶
```

¶ denotes the end of a single line of code.

Server Side Includes

Generally, a CGI script will generate some output as HTML, to be displayed by the browser. This is usually a complete page, such as the contents of the guest book or an acknowledgement. It is also possible to include the output from a CGI script in a page as it loads, in a similar manner to using the JavaScript document.write() method. This uses a system known as Server Side Includes (SSI). The key difference is that the script is executed on the server, so it works the same with all browsers. You need to have your web page on a server that supports SSI. It's normal to give such a page the file extension of .shtml. Checking for SSI puts an extra load on the server, the .shtml extension means the server does this on pages that actually use it.

One example of SSI is a counter. Many counters use an image and count how many times it is loaded. This misses any visitors with image loading turned off. A Server Side Include can do the counting as the page loads, displaying the information as a graphic or as text embedded in the page. There's a counter script on the CD. Installation follows the same procedure of editing the script, uploading it and setting the file permissions. The difference is in the way it is called. Instead of calling from a link, you

Testing, testing...

You cannot test CGI by loading the pages locally. You have two options: either upload the scripts and pages to the server and test them there, or install a web server on your Amiga. There is a version of Apache, the de facto web server, for the Amiga, it's on the CD. This handles CGI and SSI and provides a much quicker way of testing than re-uploading every time you make a change. Even though the Amiga doesn't have a multi-user filesystem as standard, you still have to set the file permission using chmod before you can run a script.

include the following in your HTML:

```
<!--#exec cgi="/cgi-bin/myscript.pl"-->
This will run myscript.pl and insert the
output in place of the <exec> tag. Scripts
written for SSI are different from standard
CGI scripts. A normal script outputs header
lines that tell the browser that the following
data is HTML. The browser then displays this
as an HTML document. A script used with SSI
shouldn't send that information, only the raw
data to be included in the page.
Server Side Includes can do more than run
Perl scripts.
<!--#include file="somefile.txt"-->
- includes the contents of the file.
<!--#fsize file="myfile.lha"-->
- includes the size of the file, in bytes.
<!--#config sizefmt="abbrev"-->
- changes the display of fsize to kilobytes.
<!--#flastmod file="linkpage.html"-->
- shows the date the given file was last
changed.
<!--#echo var="envvar"-->
- displays the contents of an environment
variable.
```

There are a number of environment variables available. This is the code on <http://www.amigactive.com/AA12/envvars.shtml>, try it to see the result.

Neil Bothwick **A**



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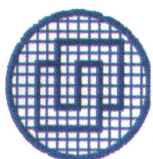
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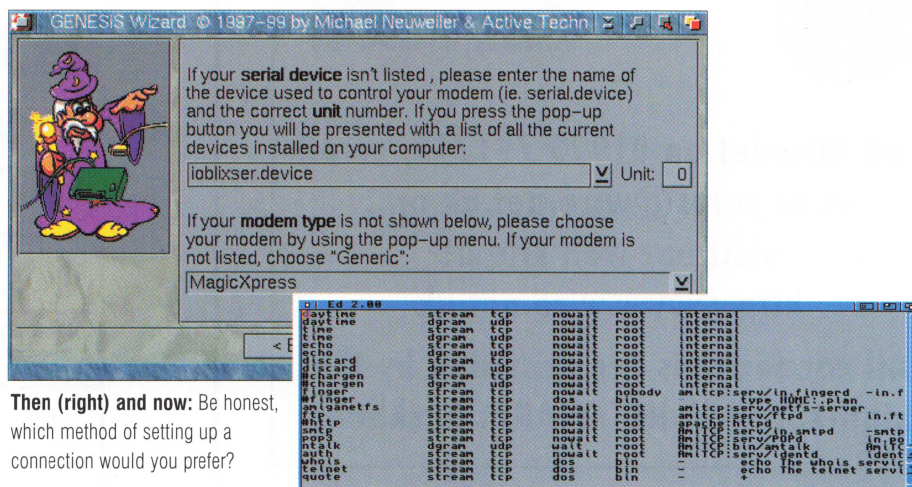
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Neil Bothwick harks back to the (good?) old days when we didn't always have well-behaved Internet software with friendly GUIs...

Back in 1994, when I first put my Amiga 2000 on the 'net, things were very different. We only had one browser, AMosaic. This was a port of the original Mosaic, which was open source. Early versions were very basic. Admittedly the PC browsers were also much more primitive then - frames were only just being launched - but AMosaic didn't even support image alignment or text centering, let alone tables. But it was ours, and we were pleased to have a graphical web browser. I remember the AMosaic mailing list as being a positive place: people really wanted it to work, and work better.

More than a browser

None of those namby-pamby setup wizards for the hard men of the mid-90s, oh no. Configuration and setup involved editing text files, several of them with cryptic Unixy names. However, there were two benefits: Firstly, it worked. Many people still use AmiTCP, either 3.0beta, 4.0 or the commercial 4.3. Used with a decent PPP device, such as the one written by Holger



Then (right) and now: Be honest, which method of setting up a connection would you prefer?

**“None of those namby-pamby
setup wizards for the hard
men of the mid-90s...”**

Mail and news were well served. There was the inevitable selection of Unix ports, such as Elm, Tin and Pine (what is this thing with Unix and trees?). This was the first area in which native Amiga software became useful.

Programs like ADMail and GRn had basic gadgets frontends; only AMosaic was flying the MUI banner at that time. Amiga users had been sending each other messages long before the Internet became popular, so BBS and Fidonet programs like Spot and THOR were adapted for Internet use. THOR was a powerful GUI-based program even then, but it was a nightmare to set up for Internet use. Like MUI, it still carries the legacy of this early reputation. FTP was simple - there was only one real choice - ncftp, a command-line program (still the fastest download program I've used to this day).

Many of these programs have long since ceased development, but the programmers are still around. The AMosaic coders began work on a new browser, called lBrowse. Holger Kruse went from ppp.device to Miami. AmiTCP was developed, updated and given a GUI to become Genesis. MUI became far more usable, although this is in part due to the higher specs of the Amigas it is now run on. THOR does the same job as it used to, and a lot more besides, and has become far more straightforward to set up. The Amiga ports of Pine and Tin are still updated from time to time, despite the proliferation of GUI based clients; some people still prefer the simple console based approach to what is, after all, a text-only medium.

More importantly, many new programmers took up the challenge of creating a wide range of native Amiga software, using the standards developed on other platforms but not the legacy of their code. Software like AWeb, STRICQ, WebVision, AmiFTP and the Vapor range. We've never had it so good.

Neil Bothwick

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PRECONFIGURED A1200 EZTOWER-Z4 SYSTEMS We've put together some pre-configured EZTower systems to suit different budgets and functional requirements - see the table below for configuration options. Alternatively if you want a brand new tower system at a rock-bottom price - and are happy to do the assembly work yourself - we've also designed a bundle comprising a full A1200 FDD Magic Pack, an unconverted EZTower-Z4 with 230W PSU, custom back & side panels, PSU/LED adapters and floppy drive cable, PC keyboard and keyboard adapter and full instructions for just £189.95!

AOE Developer platforms

After detailed discussion with Amiga Inc we have specified four levels of authorised hardware to suit different budgets and intended development environments. Each is available in the stand-alone d'Amiga form (with three different case styles to suit the hardware), as the EZTower-TransAm model (Transitory Amiga system with the EZTower Mk4/5 case to take your existing A1200), and as upgrade kits for existing EZTower (not Z4) owners - for whom we also offer a collection, fitting and delivery service. An A1200-to-dev system integration pack is available, as is a preconfigured A1200 pack for TransAm purchasers wanting the Amiga side preinstalled.

The first two hardware platforms are aimed at 'leisure' computing programmers, who wish to experiment in porting games, applications and utilities from the Classic Amiga platform to the Amiga OE. The multimedia platforms are ideal for commercial multimedia games and program developers who wish to work at the forefront of development under the Amiga OE.

NOTE: Only Amiga-approved developer systems come with 90 days of nominated-contact personal support from Amiga Inc and 12 months TrailBlaser intensively moderated web-based support, which is only otherwise available for an additional fee of £795 pa.

d'Amiga, TransAm & Upgrade Pricing

	Entry Level	Utility Developer	Multimedia Level 1	Multimedia Level 2
d'Amiga	£429.95	£599.95	£749.95	£1179.95
TransAm Twr	£499.95	£649.95	£849.95	£1229.95
EZTower u/g	£399.95	£549.95	£699.95	£1129.95

Utility - Entry - M/MLv2 - EZTower TransAm



EZDEV BASE SPECIFICATIONS - Common to all EZDev systems detailed below.

- AMD K6-2/500MHz CPU
- 128MB PC100 memory (64MB on entry level system)
- 17.2GB UDMA HD (8.4GB on entry level system)
- Removable hard drive bay so that other operating systems can be used, including the native Amiga OE when available.
- 48x CDROM (40x on entry level system)
- Keyboard & 3-button PS/2 mouse
- SDK-compatible Linux operating system
- Amiga DevPack licence & support package (normally approx £800).

ENTRY-LEVEL SYSTEM - As base specifications plus:

- Integrated motherboard with sound, graphics (8MB AGP), ethernet UTP (10/100 Mbps), 56Kbd modem, 2 x USB connectors
- Motherboard change required for upgrade to Matrox AGP graphics card
- d'Amiga system comes in a compact MiniTower case with 3 external drive bays (4 in total)

UTILITY DEVELOPER SYSTEM - As base spec plus:

- Gigabyte super socket7 PCI/AGP motherboard
- ATI Rage or similar graphics card
- Crystal CS4281 full duplex PCI sound card
- PCI 10/100 Mbps ethernet card
- Fully upgradeable to the top level of multimedia functionality, as below.
- d'Amiga system comes in a compact MiniTower case with 4 external drive bays (5 in total)

LEVEL 1 MULTIMEDIA SYSTEM - As Utility upgraded to:

- Matrox G400 32MB single head 300MHz RAMDAC graphics card AGP (upgradable to twin head)
- Soundblaster live 1024 PCI sound card
- d'Amiga system comes in a MidiTower case with 5 external drive bays (7 in total)

LEVEL 2 MULTIMEDIA SYSTEM - As Level 1 upgraded to:

- Matrox G400 Max 32MB dual head 360MHz RAM-DAC graphics card AGP
- Soundblaster Platinum PCI sound card with front bay analog & digital I/O and controls
- CDReWriter
- 56K V90 hardware modem card

AMIGA OE SDK

The future of the Amiga starts here. The SDK lets you become part of it.

Amiga OE SDK for Linux **£77.55**

SDK purchased with EZDev **£69.95**

SuSE Linux 6.4 full retail pack

with 2 manuals and 6 CD's **£29.95**



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http://welcome.to/amiga.world

Eyetech's Product Stocking Policy

Unless otherwise stated we only advertise products which we currently have in stock in reasonable volumes or which we have bulk ordered from the manufacturer and have been told by them that the products are likely to be with us before advertisement publication date. We only stock products which we have evaluated and found meet their specifications and that we are therefore able to support. We do not adopt the policy of some dealers who first advertise products - often at artificially low prices - to test demand, and then only buy in individual products to meet any orders that are placed as a result.

Accelerators and Memory (A1200)

BLIZZARD PPC & CYBERSTORM ACCELERATOR CARDS - The best way to futureproof your Classic Amiga

210MHz 603PPC & 68040/25 no SCSI	£239.95*
210MHz 603PPC & 68040/40 no SCSI	£279.95*
210MHz 603PPC & 68060/50 no SCSI	£389.95*

Add factory-fitted Fast SCSI-2 for just £60

CyberstormPPC 200MHz+/040/40+SCSI	£459.95*
CyberstormPPC 233MHz+/060/50+SCSI	£629.95*

*Estimated price - depends on £/DEM at time of shipping

APOLLO 680x0 - The cost-effective way to boost your A1200's performance for gaming or internet. For Desktop or Tower systems.

1260/75MHz MMU (no FPU) 60 MIPS	£199.95
1260/66MHz MMU & FPU 51 MIPS	£299.95
1260/50MHz MMU & FPU 39 MIPS	£249.95
1240/40MHz MMU & FPU 30 MIPS	£149.95
1240/33MHz MMU & FPU 25 MIPS	£119.95
1240/28MHz MMU & FPU 21 MIPS	£99.95
1230/40MHz MMU/FPU 8 MIPS 1 simm	£49.95
1230/40MHz MMU/FPU 8 MIPS 2 simm	£59.95

NB A standard A1200 is rated at 1.3 MIPS

Fit 1230/40/60 2nd simm skt (tower only)	£20.00
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MEMORY BOUGHT WITH AN ACCELERATOR

4MB 72pin SIMM 60ns	£12.95
8MB 72pin SIMM 60ns	£18.95
16MB 72pin SIMM 60ns	£34.95
32MB 72pin SIMM 60ns - double sided	£59.95
32MB 72pin SIMM 60ns - single sided	£69.95
64MB 72pin SIMM 60ns	£99.95
128MB 72pin SIMM 60ns	£189.95

Storage Devices

EIDE HARD DRIVES - All supplied partitioned and formatted with utilities installed and configured with WB3.0 or WB3.1 preinstalled.

21MB 2.5" HD starter drive for A600, SX32	£29.95
170MB 2.5" HD with free Magic Pack s/w	£44.95
260MB 2.5" HD with free Magic Pack s/w	£59.95
6.0GB ultraslim 2.5" HD for A1200, SX32	£179.95
4.3GB 3.5" IDE HD (max under <=OS3.1)	£79.95
8.4GB 3.5" HD for OS3.5, PFS or EZPC	£99.95
17.2GB 3.5" HD for OS3.5, PFS or EZPC	£139.95

CDROM & CDREWRITER DRIVES & SYSTEMS - All bare drives require an EZCD buffered interface and CDROM software, and MakeCD for EZReWriters. External systems come cased with PSU, EZCD interface, ATAPI software and with 40 & 44 way data cables.

CDPlus-SE 32x external A1200 system	£69.95
CDPlus-SE 40x external A1200 system	£79.95
CDPlus-SE 48x external A1200 system	£89.95
Upgrade to a 200W MiniTower system - which can also power your A1200 - for just £19 (T-o-P only)	
CDPlus-SE adjustable Amiga/CDDA mixer	£14.95
Bare 40x ATAPI CDROM mechanism	£34.95
EZReWriter 2x2x16 drive no MakeCD	£129.95
EZReWriter 2x2x16 drive with MakeCD	£159.95
EZReWriter-Gold external 2x2x16 with MakeCD, EZCD buffered interface, s/w, 40W PSU	£189.95

The above configurations are also available with a faster 4x2x8 mechanism for just £20 extra

MakeCD TAO (P) CD recording software	£38.95
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CD-RECORDABLE AND CD-REWRITABLE MEDIA -

Half price when bought with an EZReWriter

10 x CDR (Gold disks) Branded 650MB	£19.95
Single CDRW ReWritable disk 650MB	£4.95

Graphics, Scandoublers, xMON

GRAPHICS CARDS

BVision 8MB. Simply the best graphics card currently available for your A1200. Needs PPC accelerator and filtered second powerfeed adapter. Stunning 24-bit 1600x1280@72Hz resolution. **£189.95**

As above bought with BlizzardPPC - deduct £10

CyberVision 64-3D. The most cost-effective Zorro-based graphics card available for your Amiga. Has 4MB, up to 1600x1280 resolution & up to 24-bit colour depth. Now available with AMON monitor autoswitcher to switch between CV64-3d and EZVGA Mk 2 internal scandoubler/flickerfixer depending on screenmode in use. (Bundle pricing below) **£169.95**

CyberVisionPPC 8MB. For A4000 with Cyberstorm PPC. Available soon - no obligation advanced orders currently being taken. **£199.95**

Filtered powerfeed adapter. For BVision/Blizzard PPC. Delivers +5v direct to these boards avoiding edge connector voltage drop and instability. **£14.95**

SCANDOUBLERS/FLICKERFIXERS - Required to display PAL/NTSC/Euro36 screen modes on a PC-type SVGA monitor. Models with flickerfixer give rock-steady displays on interlaced screens allowing twice the usable screen area. Internal models are xMON switcher compatible. No performance hit as with DBL and Productivity modes. For use in conjunction with a graphics card or on a stand-alone basis.

EZVGA-Mk2 compact external scandoubler with PLL technology upgradable to F/F (all Amigas)	£69.95
EZVGA-Plus as above but with flickerfixer	£99.95
EZVGA-SE external SD/FF (not for A4000)	£89.95
EZVGA-INSID Mk2 fully internal A1200/A4000 scandoubler directly xMON switcher compatible	£59.95
EZVGA-INFF Mk2 as above but with full F/F	£89.95

AMIGA-(S)VGA CABLE ADAPTERS/CONVERTERS

23M/15HDM to use an Amiga Multisync Amiga monitor with an Amiga/PC graphics card/xMON	£14.95
23F/15HDF unbuffered PC SVGA monitor to A1200 RGB for DBL & Productivity screen modes	£12.95
23F/15HDF buffered PC SVGA monitor to A4000 RGB for DBL & Productivity screen modes	£14.95
9DM/15HDM PC VGA - SVGA cable 1m	£9.95

xMON HIGH RESOLUTION MONITOR & KBD SWITCHES - Seamless monitor (& optionally keyboard) switching between AGA & graphics card on an Amiga, between two Amigas - or between an Amiga and a PC. BMON connects direct to a BVision or CyberVisionPPC; SMON to any other graphics card and AMON directly to a CV64-3D. Model AMON autoswitches depending on the screen mode in use. Other models are manually switched either by a front panel toggle switch or by a keyboard key-stroke sequence. Standard models connect direct to EZVGA Mk2 internal SD/FF's. Adapters are available for external scandoublers or the Amiga 23pin RGB socket (for use with multisync monitors).

BMON/F for BVision/CyberVisionPPC & EZVGA internal Scandoubler Mk2 or SD/FF Mk2	£39.95
SMON/F for Ateco/Picasso/PC 15pHD graphics cards & EZVGA internal SD Mk2 or SD/FF Mk2	£44.95
AMON/F Autoswitching mechanism for CV64-3D & EZVGA internal SD Mk2 or SD/FF Mk2	£42.95

xMON 'AGA'-SIDE ADAPTERS

For 15pHD ext'l SD/FF specify xMON/V +£4.00

For Amiga 23p RGB specify xMON/A +£4.00

xMON ADD-ONS/ACCESSORIES

KMON dual output xMON-synchronous keyboard sharing switch for 2xAmiga or Amiga/PC	£19.95
EZKey-SW/A A4K keyboard adapter with keystroke operated xMON switch A1200/A4000	£39.95*
EZSwitch keystroke operated xMON switch for A1200/A4000 (clips on A1200 CIA U7)	£29.95*
EZKey-XS multifunction A1200 A4K/PC k/b adapter with keystroke/infra red control of xMON	£39.95

* Deduct £10 as a time-of-purchase upgrade with an xMON

GRAPHICS CARD,SD/FF, xMON BUNDLES - See also Z4 busboard and EZTower-Z4 bundles below.

BVision + BMON/F (manual switch)	£234.95
BVision + BMON/F + EZVGA INSD2	£279.95
BVision + BMON/F + EZVGA INFF2	£309.95
As above bought with BlizzardPPC - deduct £10	
CV64-3D + AMON/F (auto switch)	£199.95
CV64-3D + AMON/F + EZVGA INSD2	£259.95
CV64-3D + AMON/F + EZVGA INFF2	£279.95

SVGA Monitors and SD/FF bundles

HIGH QUALITY SD/FF-COMPATIBLE MONITORS WITH ON-SITE MAINTENANCE - Monitor resolutions are usually quoted as the maximum resolution at the lowest vertical scan rate. Higher scan rates are available at lower resolutions. A rate of at least 72Hz is recommended to avoid eye strain. All our monitors have digital controls and auto scan rate detection. Note that some PC monitors may not work correctly with Amiga scandoubler/flickerfixers.

15" SVGA 0.28DP 1024x768@60Hz	£119.95
17" SVGA 0.27DP 1280x1024@60Hz	£179.95
17" SVGA 0.25DP 160MHz video bandwidth, 1600x1280@75Hz Diamondtron super definition tube. Highly recommended for BVision users	£299.95

Special Purchase: 19" SVGA 1600x1200@75Hz high spec monitors - limited stock - just £249.95

Special Offer: 30% off the price of EZVGA-Plus SD/FF (15% off other SD/FF's) purchased with any of the above monitors.

We also have a few brand new 15" digital monitors available with restricted SD/FF compatibility (but fine for Productivity mode/graphics cards/PCs) for just £79.95. Please ring for details.

A1200 Expansion & Zorro Cards

A1200 FLOPPY & EIDE BUFFERED INTERFACES -

Please note all the A1200 EIDE interfaces supplied by us are fully buffered on both data and control lines, which is not the case with some other interfaces. This is especially important as it protects the main A1200 data bus from electrical noise and/or damage from connected hard drives and CDROMs. The Mk4 interface is recommended for higher performance systems (ie 1230/50Mhz and above) as its AIPD technology gives faster acting control signals than is provided by other designs. The EZDF0 interface allows a standard PC floppy drive to be used as DF0 in a tower system. The Mk2 Catweasel allows such a drive to read and write in standard and high density Amiga and PC formats. The IDE-Plus combines a Mk2 Catweasel and three IDE/ATAPI channels (6 devices) in a single Zorro2 card.

EZCD Mk4 4-device fully buffered interface with AIPU technology. With A1200 CDROM s/w	£28.95
EZCD XL 4-device fully buffered interface. Comes with unrestricted A1200 CDROM s/w	£14.95
for 3-conx40w cable & 2-conx44w cable	+£10.00
for EZIDE ATAPI HD/CD/ZIP/LS120 s/w	+£10.00

UK NEXT DAY*/USA 2-7 DAY*

INSURED DELIVERY CHARGES

OS 3.5, S/W, Cables, EZCD I/F =	£3/\$10
2.5" HD's, Accel'tors, Manuals =	£7/\$18
3.5" HD's, FDD's, PSUs, SX32 =	£9/\$25
CDPlus, Scanners =	£11/\$Quote
EZTV, EZPC, Monitors =	£15/\$Quote
Tower with monitors =	£23/\$Quote

* FROM DATE OF DESPATCH

HIGH SPEED SERIAL AND PARALLEL PORT EXPANSION COMPATIBILITY

Board Type	Chip Type	Price Alone	Price Bundle	Serial Ports	Serial Speed	Serial Cache (B)	Parallel Ports	Par Snr/ Zip driver	A1200 Clk pt	Z4 bus Clk pt	Clockup Port 0	Clockup Port 1-3	Surf-XS Clk Pt	Surf-XS/ IDE+ Hdr	Z2/3/4 Slot
PortJnr	'650	£24.95	£20	1	460KbD	64	-	-	Yes	Yes	Yes	-	Yes	-	-
SilverSurfer	'550	£24.95	-	1	460KbD	32	-	-	Yes	Yes	Yes	-	Yes	-	-
IOBlix-12S	'650	£39.95	-	1	1.5MbD*	64	-	-	Yes	-	Yes	Yes	-	-	-
IOBlix-12P	'C36	£49.95	-	-	-	-	800KB/s	Yes	Yes	-	Yes	Yes	-	-	-
PortPlus	'553	£69.95	£50	2	460KbD	64	800KB/s	-	Yes	Yes	Yes	-	Yes	-	-
GoldSurfer	'552	£49.95	£40	2	460KbD	32	800KB/s	-	Yes	Yes	Yes	-	Yes	Yes	-
Hypercom3i+	'552	£49.95	£40	2	460KbD	32	800KB/s	-	-	-	-	-	-	-	Yes
Hypercom4i+	'552	£79.95	£70	4	460KbD	32	2x800KB/s	-	-	-	-	-	-	-	Yes
IOBlix-Z2+	'650/'C36	£119.95	-	4	1.5MbD*	64	2x800KB/s	Yes	-	-	-	-	-	-	Yes

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EMAIL: sales@eyetech.co.uk **WEB:** http://welcome.to/amiga.world



EZIDE Software ATAPI HD/CD/ZIP/LS120 EIDE enhancement software **£34.95**
EZIDE upgrade from competitive product **£14.95**
Catweasel MkII Universal IDE or clockport fitting HD/DD Amiga/PC floppy disk controller **£49.95**
EZ-DF0 To use a PC FDD for DF0 (880KB) **£9.95**
IDE-Plus Zorro2/3/4 card with built in Catweasel Mk2 controller & 6xEIDE/ATAPI hard drive/CDROM controller and connector for GoldSurfer **£69.95**
Sony FDD 880/1.76MB high quality PC FDD **£19.95**
A1200/A600 original FDD (no floppyplate) **£19.95**
EZDF0, 34 way cable & SonyFDD **£29.95**
Catweasel MkII, cable & SonyFDD **£64.95**

CLOCK PORT FITTING I/O INTERFACES - Clock port interfaces can provide some of the most cost-effective expansion routes available to A1200 users, particularly now additional clock ports are available on the Z4 busboard, the Surf-XS and via the ClockUp A1200 clock port expander. However some care is needed as not all clock port devices can be used on all possible clock ports. Please see the compatibility table in this advert for details. Note that for technical reasons sound cards can only be used DIRECTLY on the original motherboard clockport. (* the 22 rightmost pins of P9B)

PortJnr Mk2 460KbD serial interface with 64 byte FIFO buffer for low CPU overhead **£24.95**
IOBlix 12S 1.5Mbps serial i/f with 64 byte FIFO buffer. (Current driver to 460KbD only) **£39.95**
IOBlix 12P EPP parallel port 800KB/s with parallel Zip drive & Mustek 600CP scanner drivers **£44.95**
PortPlus Mk2 2x460KB serial (64 byte FIFO) + 1x800KB parallel interface for printer **£69.95**
SilverSurfer 460KbD serial interface with 32 byte FIFO buffer **£24.95**
GoldSurfer 2x460KB serial (32 byte FIFO) + 1x800KB parallel interface for printer (also fits as an expansion on the Surf-XS Z2 ethernet card and the IDE-Plus Z2 HD floppy + IDE controller) **£49.95**
ClockUp 4-way clock port expander for the A1200 motherboard clock port **£19.95**
Prelude 1200 high quality full-duplex sound card for A1200 DT console only **£129.95**
Prelude A1200 tower with right angle clockport connector and tower I/O bracket **£149.95**

Zorro 2/3/4 Cards - See also graphics and EIDE cards above

HyperCOM3i+ 2x460KbD serial (32 byte FIFO) + 1x800KB parallel interface for printer **£49.95**
HyperCOM4i+ 4x460KbD serial (32 byte FIFO) + 2x800KB parallel interface for printer **£79.95**
IOBlix Z2 - 4x1.5Mbd serial (64 byte FIFO) + 2x EPP port (with parallel Zip & 600CP scanner driver compatibility - needs ScanQuix5 software) **£119.95**
Surf-XS SANA II ethernet card with UTP/BNC connectors, 2x dual IDE ports (needs IDEfix2000), 2x clock ports, GoldSurfer 2xS+1xP connector (see 'Networking' below for bundles) **£79.95**
Hydra Z2 SANA II ethernet card BNC **£99.95**
Prelude Z2 16 bit full duplex sound card (limited availability) including samplitude s/w **£189.95**

EXTERNAL AMIGA AUDIO INTERFACES

MIDI-Plus Optically isolated serial port MIDI interface for all Amigas with Octamed SS s/w **£24.95**
EZ-Sample 8-bit variable sensitivity stereo 100Mhz parallel port sampler with Octamed SS s/w **£29.95**

PS/2 Mouse and Trackball adapter

EZMOUSE - Hardware-only PS/2 mouse/trackball to Amiga mouse adapter. Supersmooth action compared to the older serial mice adapters. Comes with software to support 4-button and wheeled mice and trackballs.

EZMouse PS/2 to Amiga converter **£19.95**

Amiga to Amiga & PC Networking

HIGH SPEED ETHERNET NETWORKING - All our ethernet networking products - from the PCMCIA ethernet card for the Amiga at £44.95 to the top of the range Surf-XS card - now come complete with the 5-click EZNet Amiga-Amiga & Amiga-PC networking software (Amiga TCP/IP s/w - eg Genesis or Miami - is a prerequisite).

Bundles are available for networking A1200/A600's (via PCMCIA), Zorro equipped systems (via Surf-XS) and PC's (via PCI card). A push-on CC_RESET fix adapter is available to correct the Gayle chip fault present on all A1200's.

Our minihub allows you to network up to 8 computers via straight UTP cable with an additional BNC connector for adding a server, internet router or ASDL modem to your network.

Surf-XS SANA II Ethernet card with UTP/BNC connectors, 2x dual IDE ports (needs IDEfix200), 2x clock ports, Goldsurfer 2xS+1xP connector **£79.95**
Surf-XS+PC PCI ethernet cards with 3m of crossed UTP cable & Eyetech EZNet software **£99.95**
Surf-XS + PortJnr Mk2 460KbD serial **£99.95**
Surf-XS + GoldSurfer 2 x 460KbD serial & 1 x 800KB/s parallel expansion interface **£119.95**
SurfCard ethernet card (UTP) with Eyetech EZNet software & CC_RESET instructions **£44.95**
2 x SurfCard PCMCIA ethernet cards with crossed 3m UTP cable, Eyetech EZNet software **£89.95**
SurfCard+PC PCI ethernet cards, 3m crossed UTP cable & Eyetech EZNet software **£69.95**
MiniHub-8 5xUTP + 1xBNC network links **£39.95**
3m UTP cable (crossed/straight - specify) **£9.95**

NETWORKING SOFTWARE & ACCESSORIES

CC_RESET Push-on Gayle reset fix **£14.95**
CC_RESET purchased with SurfCard **£7.50**
EZNet 5-click installer for Samba & NetFS **£14.95**
Genesis TCP/IP software (needs WB3.0+) **£24.95**

All A1200 PCMCIA ethernet cards need the CC_RESET fix to ensure reliable operation

SERIAL NETWORKING - for occasional Amiga-Amiga & Amiga-PC file transfer.

2m null modem cable (no software) **£9.95**
10m null modem cable with TwinExpress PD Amiga to Amiga/PC networking software **£19.95**

Dial-up Communications

NETCONNECT-3 INTERNET BUNDLES - All you need to get on the internet with your 6MB+, WB2.1+ Amiga

EZSurf bundle comprising Dynalink 56KbD voice / data / fax modem, award-winning NetConnect-3 internet software, free internet access (0845 lo-call charges only) with web retrievable email. **£99.95**

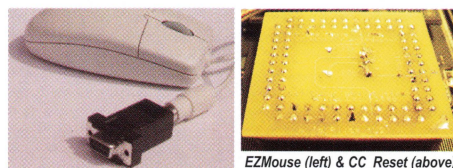
TIME OF PURCHASE OPTIONS

ISDN Home Highway terminal adapter (instead of modem) **+£20.00**
PortJnr Mk2 - high speed 400KbD serial port for A1200 clock port **+£20.00**
PortPlus Mk2 (2 x high speed serial + 1 x high speed parallel) for A1200 clock port **+£50.00**
HyperCOM3i+ (2 x high-speed serial + 1 x hi-speed parallel) for Zorro Amigas **+£40.00**
HyperCOM 4i+ (4 x high-speed serial plus 2 x high speed parallel) for Zorro Amigas **+£70.00**
STFax-4 Amiga fax & voice mail software **+£30.00**

Digital Imaging

SCANNER BUNDLES - Parallel and SCSI bundles for desktop and towered A1200 systems

Parallel bundle Mustek 600 CP A4 flatbed scanner, IOBlix-12P high speed parallel EPP port (fits on clock



EZMouse (left) & CC_Reset (above)

port), ScanQuix5 award-winning Amiga software (& PC & MAC scanner software), 25D-M to 25D-M scanner cable. No other interfaces needed **£139.95**

SCSI bundle A4 flatbed Scanner, ScanQuix5 award-winning Amiga software (PC SCSI card and scanner software included) and SCSI-1 cable. **£139.95**

Classic Squirrel SCSI PCMCIA interface with 50F-50F cable adapter bought with above **£49.95**

Application and System software

OPERATING SYSTEM SOFTWARE & A1200 ROMS

Amiga OS3.5 A modern operating system for Classic Amigas on CDROM. Requires 3.1 ROMs. Documentation in HTML on the CD. **£34.95**

OS3.5 + A1200 3.1 ROMs bundle **£54.95**

OS3.5/A1200 ROMs/Magic Pack s/w **£69.95**

Magic Pack software with Wordworth, DataStore, TurboCalc spreadsheet, Organiser diary, Photogenics & Personal Paint art packages, Whizz & Pinball games (needs OS3.1+). With printed manuals **£24.95**

OS3.1 or OS3.0 operating system disks **£9.95**

OS3.1/A1200 3.1 ROMs, printed manuals **£39.95**

OS3.1 Magic Pack upgrade set with ROMs. As above + full Magic Pack software & manuals **£49.95**

CDPlus-SE 32x external CDROM purchased with OS3.5 or OS3.5 bundles. Special price. **£59.95**

APPLICATION SOFTWARE - The very best serious and productivity software available for your Classic Amiga.

Scala MM400 The best Amiga presentation software which can also be used for video titling. **£54.95**

Scala MM400 upgrades from MM300 **£34.95**

EMC Phase4 Scala backgrounds & fonts **£14.95**

TV Text Professional v2 Video titling software with comprehensive reference manual **£49.95**

Ultraconv 4 Comprehensive image and animation conversion program. With batch facility & PPC enabled for even faster operation **£24.95**

ImageFX4 The ultimate image manipulation and animation package for Classic Amigas **£99.95**

ImageFX upgrade from Version 2 or 3 **£59.95**

ImageFX PPC module for faster operation **£49.95**

ScanQuix5 comprehensive multi scanner supporting software for Classic Amigas on CDROM **£54.95**

PhotoScope scanner software for UMAX SCSI scanners including ArtEffect 1.5SE image s/w **£34.95**

TurboPrint 7.1 Print driver software **£38.95**

Turboprint 7.0x to 7.1 update **£14.95**

Turboprint 6 to 7 upgrade **£18.95**

Samplitude LE multitracking audio full duplex sampling, editing & effects software **£49.95**

Samplitude Opus As LE with realtime filters, virtual projects (original samples not altered) etc **£149.95**

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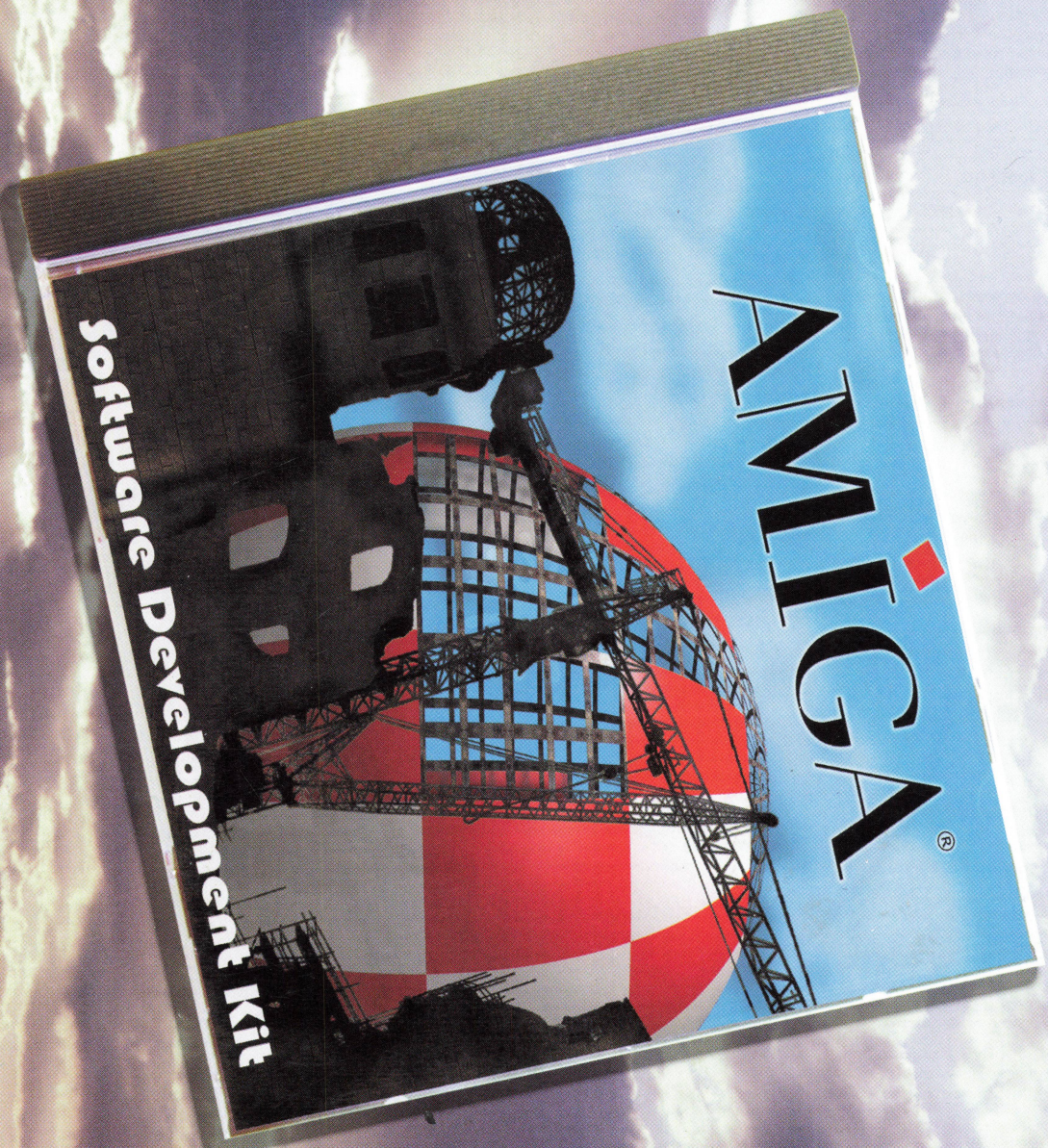
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